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## What People Are Writing About

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## What People Are Writing About

### Authors

LeRoy J. Pryor, Paul Locatelli, William J. Morris, Glen O. Palmer, Edwin Bartenstein, Hugh R. Dawson, Peter Pail Lockett, Thomas Edward Lynch, and Wilfred G. Cannon

# what people are writing about

## BOOKS

**Organizational Planning and Control Systems: Theory and Technology** by JAMES C. EMERY, The Macmillan Company, New York, 1969, 166 pages, \$2.95 (paperbound).

*Great strides have been made recently in some of the fields that underlie management planning and control—organization theory, cybernetics, systems theory, decision theory, and information technology. Yet, says this author, we are victims of a cultural lag; these ad-*

*vances have not yet been sufficiently amalgamated to form a unified theory of planning. Somewhat ambitiously, he attempts to do just that in this book.*

Information technology, Dr. Emery concludes, has now advanced to a point that makes large man-machine planning systems technically and economically feasible. The results would include closer coordination among organizational subunits, more consistent pursuit of organizational goals, and less waste of resources that now are devoted to “cushioning the effects of fragmented activities.”

Such a system would require

massive data handling, which in turn demands a means of collecting, transmitting, storing, retrieving, manipulating, and displaying large quantities of data with both generality and flexibility. It would have to be designed in such a way as to facilitate close communication between man and machine.

Thanks to advances in information technology—computer hardware and software—such a man-machine planning system centered around a common data base is now technically feasible, according to the author. In this brief book he does not attempt to present a design for such a system. Rather, he attempts to provide “a construct

## REVIEW EDITORS

In order to assure comprehensive coverage of magazine articles dealing with management subjects, MANAGEMENT SERVICES has arranged with fifteen universities offering the Ph.D. degree in accounting to have leading magazines in the field reviewed on a continuing basis by Ph.D. candidates under the guidance of the educators listed, who serve as the review board for this department of MANAGEMENT SERVICES. Unsigned reviews have been written by members of the magazine's staff.

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of planning" that could provide a framework for the implementation of formalized man-machine planning systems.

He starts by explaining the organization as a system and the role of the information system in it. An interesting chapter (but the most mathematical in the book) discusses the economics of information and presents a theoretical model for measuring its payoff. The final chapter attempts to synthesize current knowledge in the fields related to planning into a unified theory of planning.

All this sounds highly theoretical. It is (although Dr. Emery prefers the term "conceptual"). It is, however, something that must be done if "organizational planning" (by this term the author means planning to attain the goals of an organization, not planning of organization structure) is to become a real science. As Dr. Emery points out, "Nothing is so practical as good theory."

This is undoubtedly not the last word on the subject. But this book, logically organized and clearly and simply written, represents the direction in which the thinking of the new breed of management scientists is moving—and it is probably a direction in which managers and accountants will have to move eventually.

**Progress in Operations Research, Volume 3: Relationship Between Operations Research and the Computer** edited by JULIUS S. ARONOFSKY, John Wiley & Sons, Inc., New York, 1969, 561 pages, \$18.75.

*This book, a compilation of fourteen articles by operations researchers, computer specialists, and management information specialists, is the third anthology sponsored by the Operations Research Society of America. The first volume dealt with OR methods and the second with applications. This one deals with the role of elec-*

*tronic data processing in the practice of operations research — and vice versa.*

Operations research and electronic data processing are among the fastest-growing components of today's expanding technology. And they are closely related. Computers are a valuable tool of operations research; OR can make a significant contribution to the design, manufacture, and use of computers.

Therefore, the editor of this volume concludes, the operations researcher needs to know more about computers (and the computer specialist about OR). The objective of the book, which is directed primarily to OR people, is to broaden their horizons on the subject of computers.

Among the topics discussed are computer systems for mathematical programming, integer programming, and heuristic programming; computer languages for simulation and for statistical problem solving; and the use of computers in the design of OR studies, in implementation of OR applications, and in design of management information systems.

Most of the chapters are too mathematical for the general business reader. A few, however, particularly a survey of the applications of simulation by Roger L. Sisson; the discussion of management information systems by James C. Emery; and the concluding chapter warning against dedication to the computer rather than to the managers it serves, written by R. L. Ackoff and Sir Stafford Beer, would be of value to anyone interested in management.

#### **Briefly listed**

**Management Information Systems: An Annotated Bibliography** by R. IAN TRICKER, the General Educational Trust of The Institute of Chartered Accountants in England and Wales, London, 1969,

127 pages, paperbound, 10 shillings (\$1.20).

This bibliography, indexed by descriptors, lists some 200 books and some 700 articles and papers on management information systems, along with the names of some 100 journals that publish relevant material and a directory of other useful sources, such as abstracting services and other bibliographies.

**Decision Tables** by M. L. HUGHES, R. M. SHANK, and E. L. S. STEIN, Management Development Institute, Inc., 148 East Lancaster Avenue, Wayne, Pennsylvania 19087, 1968, 176 pages, \$15.95.

Decision tables, say the authors of this book, are the best method for analyzing and documenting systems. In this generously illustrated volume they tell how to prepare and use them.

**Forms Design and Control** by JULIUS B. KAISER, American Management Association, Inc., New York, 1968, 173 pages, \$16.95.

Designed as a guide for "every person who is invested with the manufacture, preservation, routing, or destruction of business forms," this book contains more than sixty sample forms.

**Computer Privacy** by M. G. STONE, Ambar Publications Ltd., London, 1968, 39 pages, paperbound, 10 shillings (\$1.20).

This little monograph devotes more attention to the dangers to privacy and freedom that may arise from the increasing use of computers for recording personal information than to possible solutions for the problem.

**Systems Concepts and Data Processing Methods: An Introduction** by MYRA ENKELIS, American Association of Medical Record Librarians, 211 East Chicago Avenue, Chicago 60611, 1968, 24 pages, paperbound, \$3.25.

This booklet, which takes the hypothetical case of a hospital census listing and shows how to "evaluate and upgrade it by applying basic principles of systems analysis and data processing," was developed to help medical record librarians prepare for conversion to EDP. Others also may find it a useful introduction to EDP concepts.

## MAGAZINES

**Computers Versus Mathematics**  
by A. WAYNE CORCORAN, *The Accounting Review*, April, 1969.

*Must the accountant possess a knowledge of both computers and mathematics? Does expertise in either one of these disciplines obviate the need to have expertise in the other? These are the questions Professor Corcoran explores in this stimulating article.*

Today's accountant must know "at least one" of the two disciplines: computers and mathematics, this author says. But this raises the further question of what degree of knowledge is necessary?

Professor Corcoran dismisses what he calls the "quarterback" interpretation of knowledge, i.e., that level of knowledge and experience which supposedly enables the accountant to manage but is insufficient to make him a "doer." He believes that it is not realistic to expect that supervision based on this level of knowledge will produce a viable relationship between the manager (non-doer) and those who are being managed (doers). He asks, "What would a quarterback manager contribute to his position?"

As for the interchangeability of these two disciplines, an apparent if not real trade-off is available to the accountant. In numerical problem solving, computer power can be substituted for mathematics. Professor Corcoran gives several specific examples of the computer

versus mathematics phenomenon. Each example is solved first in a mathematical or formulative way and then in a procedural way made possible by the computer's high speed.

One area in mathematics for which the computer is a direct substitute is known as the calculus of finite differences. Problems such as those involving factorial notation and maximizing or minimizing costs are illustrated as examples where the problem solver has the option of using either the pencil-paper-formula approach or the program-computer approach.

Professor Corcoran observes that the computer programmer need not know the solution techniques of finite calculus, although he must have at least a minimum grasp of the mathematics in order to model the problem in terms of his computer language. While "minimum" is still undefined, one thing is certain: Considerably less mathematics is needed where a computer is the solution vehicle. On the other hand, he states that we must not conclude that the computer is any more than a partial surrogate for mathematics. For example, a minimum knowledge of algebra is a prerequisite to set up a problem for a FORTRAN solution. Thus, the author, admitting to a bias in favor of applied mathematics, concludes that the trade-off available to accountants is certainly not a complete one. Finally, he says that without some familiarity with mathematics it is impossible to understand the current business literature.

LEROY J. PRYOR  
*University of Southern California*

**Valuing the Firm's Durable Assets for Managerial Information**  
by Y. GOLDSCHMIDT and S. SMIDT, *The Accounting Review*, April, 1969.

*The current market price—based on the criterion that assets should be valued commensurately with*

*the objectives of the information system—provides the best data inputs for managerial decisions. The conventional methods of valuation—past transactions and present value of future earning power—provide other kinds of information, namely, ex-post reporting by original costs and ex-ante analysis by internal opportunity costs. This article deals with the "why" and the "how" of the current market price basis of valuing productive assets—their external opportunity costs—for internal purposes.*

For managerial decisions, the conventional valuation procedures for durable assets have some severe shortcomings. Under the accounting method, the reported value does not necessarily reflect asset condition or serviceability; the acquisition cost is distorted by price level changes; and asset value may not represent normal market price. The economic method is a subjective procedure because value is based on the generation of expected cash flow during the asset's productive life. In other words, both future cash flows and the discount rate are estimates. Moreover, cash flow must be attributed to the interdependence and aggregation of the total assets rather than to a single asset.

Since managerial decisions are concerned with opportunities, the current market price is a relevant basis for valuation. In the traditional sense of accounting, objectivity is violated. However, in the context of internal accounting, current prices furnish external opportunity information as inputs for decisions. In comparison with the present value method, the current market price method is more objective since it is based on current existing price data and simpler because it is less dependent on future conditions.

### Complications

The current market price method is not without complications, however. That is, there may be a sig-

nificant difference between the current acquisition cost and the liquidation value; a direct market valuation may be unavailable or irrelevant because of technological changes. Finally, existing assets often do not provide the same service as an equivalent new asset.

### **Operating periods**

For analytical purposes, the continuous operations of a firm are divided into identifiable periods. During each period the firm trades commodities on the external market and uses assets internally. If an accurate market price for the internally used assets can be determined, an objective valuation results, providing a cost basis for the measurement of income earned. Management could "purchase" these assets for the current period from the prior period or on the market, but it is normally more economical to "purchase" assets from the prior period than on the market. Regardless of the decision, the objective of management remains the same: to maximize income in the current and future periods.

In the valuation of assets, liquidity is an important characteristic since the more liquid an asset, the more readily a value can be determined. A measure of liquidity is the ratio of the liquidation value (sales price) to the acquisition cost (replacement cost). When these two are identical, a single figure exists for an asset's value. When they diverge, two values for an asset exist.

### **Liquidity**

Liquidity is also measured in terms of the planning horizon. If the planning horizon of the asset is shorter than that of the production process, then the asset is likely to be considered liquid. Consequently, the identical asset will have different liquidities for different firms. Ultimately, the value used depends on the purpose and plan of the firm. Part of the decision-making process lies in judg-

ing which basis is more relevant. In some cases, the acquisition cost is more important; in others the liquidation value will be the dominant consideration.

### **Durable assets**

Although the value of nondurable assets is included in the computation of costs and revenue, the focus of attention here is on the valuation of *durable* assets. The related costs (mainly depreciation and interest) depend upon this valuation, which, in turn, is the basis for determining periodic income. Segmented periodic income is required for two reasons. First, in reference to product mix and scale of production, costs related to liquid assets are relevant, whereas those related to nonliquid assets are not. This happens because the planning horizon is so short that costs related to nonliquid assets exist regardless of the production alternatives and, thus, are nonavoidable. Second, unusually good or unusually poor operating results are important considerations for decisions concerning performance, operation expansion, and pricing policy. Because of the composition of data inputs, the costs related to liquid and nonliquid assets must be included in the calculation of income. And income measurement based on current market prices will provide meaningful information for managerial decisions.

### **Practical problems**

From a practical point of view, a method of valuing assets by current market price is difficult to implement. Tax considerations are so important that both the acquisition cost and the liquidation value should be adjusted for the tax effect. The after tax basis may differ from the current market price. However, this after tax value is the relevant figure for managerial decision making purposes.

Durable liquid assets, such as common stock, can be easily traded on the market. The value of

these assets is their market price at the point of time under consideration, that is, their net liquidation value. Liquidation value, then, is the principal and practical figure for reporting durable liquid assets. The difference between the beginning and ending market values should be recorded as depreciation (appreciation). Thus, this procedure measures and records any change in value occurring during the period.

### **Nonliquid assets**

Durable nonliquid assets present a different problem from that presented by durable liquid assets. Once nonliquid assets are acquired, their basis is a nonavoidable historical cost. Historical costs furnish useful information for comparing actual acquisition costs to present estimated ones. In terms of valuation, comparative acquisition costs provide information for decisions. The important measure here is the comparative values of potential service.

### **Potential service**

A systematic process that includes technical and economic factors should determine an existing asset's potential service compared to a new asset. This determination of potential service represents an appraisal value that incorporates such factors as maintenance, serviceability, obsolescence, and price level change.

In a temporal framework, various activities will "compete" for a multipurpose existing asset. Assuming that an old asset provides a service similar to that provided by a new asset, the appraised value will approach the current market price. The implication is that the existing asset and the new asset will be equal in value.

### **Innovations**

Innovations will have an effect on value. Minor innovations cause a decline in value because other

more efficient assets become available. Major innovations may even cause a complete change in the production process, leading possibly to the disposal of the old asset. The degree of obsolescence may be so great that appraisal value approaches scrap value. Even with a new asset, appraisal value should be reported because it reflects relevant facts for decisions.

There is a complication in estimating market price by appraisal of future service potential. As in the economic method, future cash flows and discounted rates must be estimated. However, boundaries are set on the appraised value—the acquisition cost and the liquidation value. Also, valuation is based on incremental cash flows for an individual existing asset compared to its replacement, whereas the economic method utilizes an incremental cash flow of an entire set of assets.

In summary, all three methods should be used in decision making: past transactions for external ex-post reporting, present value of future earnings power for ex-ante decisions, and current market price for internal ex-post reporting. Past transactions and current market price methods provide inputs into the system, whereas present value of future earning power provides output data of the system.

PAUL LOCATELLI  
*University of Southern California*

**Plans and Planning** by PATRICK J. REDDIN and JAMES C. COHRS, *Management Controls*, February, 1969.

*The planning process is common to and essential to all activity. There are some basic principles which can be used to improve the quality of the planning and the soundness of the resulting plans. These basic principles are reviewed in this article.*

The authors start by reviewing the management function, which can be portrayed as the following

Pryor et al.: What People Are Writing About sequence of steps: Establish objectives, plan, organize, execute, evaluate, and replan. They approach the planning function by discussing inputs and outputs. The information fed into the planning process can be divided into two types of information: the objectives of the firm and the data base. The objectives include the desired growth, profit, and return on investment. The data base would include market data, sales statistics, production data, cost data, and historical performance. The planning outputs that result include a sales plan, a production plan, and a financial plan. The financial planning process is also discussed within an input-output framework.

The authors proceed to discuss planning for the planning function by answering the what, when, who, and how of planning.

This article, which provides a concise review of the planning process, would be useful as a reminder of the items to consider in initiating a formal plan.

WILLIAM J. MORRIS  
*Michigan State University*

**Quasi-Debt Analysis of Financial Leases** by THOMAS H. BEECHY, *The Accounting Review*, April, 1969.

*Professor Beechy proposes an alternative to the traditional means of evaluating financial leases. The proposed method calculates an effective interest rate, which is more helpful to decision makers than the traditional way of comparing a "discounted" cost with debt.*

As outlined by Mr. Beechy, the traditional method of financial analysis of financial leases (those whose rentals provide for payment of substantially the entire cost of the asset during its lease term) generally involves calculating the cash flow (after taxes) of the lease and of the alternative loan and then discounting the cash flows at the cut-off or the cost of capital. The excess of the present value of

the lease over the present value of the loan is then considered to be the added cost of the lease.

### **Method improper**

Mr. Beechy contends that this method is incorrect, for it uses a technique of investment analysis to evaluate financing alternatives. That is, the cost of capital is determined by using the cost of debt as one of its components. It is therefore improper to turn around and use the cost of capital to evaluate the cost of debt. The cost of capital is the result of decisions on financing (among other factors) and is not the cause of financing decisions. The cost of a loan is its effective interest rate, not its discounted value.

### **Equally inappropriate**

Since leasing is a form of debt financing and since debt cannot be evaluated by discounting the cash flow at the cost of capital, then it is equally inappropriate to evaluate leases by discounting the cash flow.

By the use of two illustrations (one of which is extremely simple), Professor Beechy shows that the effective interest rate is easily calculated by discounting the net cash flow of the lease payments until the discounted value of these flows is equal to the base cost of the asset. The discount rate that gives this result is thus the effective interest rate of the lease.

### **Preferable method**

According to the author, this method of analysis is more meaningful "than attempting to evaluate the lease as though it were partly an investment, for the lease is a financing tool and not an investment. . . . Investment decisions must be made independent of financing decisions, and likewise financing decisions must be reached independent of the investments which they are financing. This method accomplishes this separa-

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tion. . . . Thus the final result, an effective interest rate, can be evaluated on the same basis as any other debt financing instrument.”

GLEN O. PALMER, CPA  
*University of Southern California*

**The Armed Services Procurement Act of 1947 Should Be Reformed** by ROBERT B. HALL, *National Contract Management Journal*, Spring, 1969.

*The Armed Services Procurement Act of 1947 has had, and will continue to have, an important bearing on the lives of all Americans. Criticism of “waste in Pentagon spending” usually originates with reports released by the General Accounting Office (GAO), which has as one of its functions the auditing of activities under the act, and the author of this article is himself a part of GAO as assistant for planning on the procurement staff of the defense division. His article won the first prize in the annual contest conducted by the National Contract Management Association.*

The act applies directly to the Department of Defense (DOD), the National Aeronautics and Space Administration (NASA), and the Coast Guard. However, regulations of other government agencies and other government procurement statutes are patterned after this law, and the impact reaches further, through the tiers of subcontracting, so that, in effect, tens of thousands of companies in nearly every industry are directly or indirectly affected. A major assumption of the law is that there is one best way to buy anything—by formal advertising, that is, by formal closed bid based on specifications regarding hardware configuration, material, performance, delivery, method of payment, etc.

Mr. Hall begins his discussion with a brief history of procurement law from its beginnings in the early 1800s. He points out that up to World War II Congress was mainly

concerned with the prevention of favoritism. Procedures were prescribed that required formal advertising as the one acceptable method of procurement. Exceptions were permitted, at first, only in case of “public exigency.” But over the years as government procurement became more complex more exceptions were allowed, and by the time of World War II formal advertising was the least used method.

### **Shift to negotiation**

The shift in emphasis to procurement by negotiation was inevitable. The old arsenal system through which weaponry was researched, developed, and often produced in house did not have the capability to produce a B-29 or an aircraft carrier. Certainly in these days of complex weapons systems only private industry possesses the technical capability to research, develop, and produce a B-52, an atomic submarine, or a trip to the moon. “Today, in order to prepare the adequate, complete, and realistic specifications necessary for formal advertising, the Government would have to duplicate industry’s engineering competence.” The author details several other limitations of this type of procurement. Then he points out some of the economies obtained by using negotiated and single-source procurement. “Negotiation does not . . . imply a reduction in competition or the number of companies invited to bid.”

### **Ideas presented**

Mr. Hall says, “A way must be found to bridge the gap between this reality and the Armed Services Procurement Act, which statutorily provides for one method—the least applicable one—while others are buried in the ‘exception’ process.” He presents some ideas which he hopes will generate discussion and eventually a more realistic law.

One recommendation is to set up written criteria under which each of formal advertising, competitive negotiation, and sole-source pro-

urement methods would be used. Included in the article are suggested lists of possible criteria. It is to be anticipated that this kind of straightforward wording would obviate the need for the present seventeen exceptions in the law.

### **How to do it**

Mr. Hall concludes, “It seems clear that the act discriminates against, and has helped to create widespread congressional and public misapprehension over, perfectly normal and effective procurement methods.” Then he lists eleven examples of the “many things” which would have to happen to bring about a change in the law. One of them is “resolving the basic policy issue of whether the Government is going to let the ‘fear of favoritism’, etc. be the overriding factor in dictating procurement procedures or let the needs of the procurements themselves dictate the procedures.” Another is “establishing separate policies and regulations applicable to substantially different procurement arenas: small purchases; low-technology, standard items; and high-technology, non-standard items.” Lastly, he suggests that a separate set of regulations be formulated for each procurement arena.

The Comptroller General, head of the GAO, was quoted in testimony before a Senate subcommittee as saying, “Each of these methods (formal advertising, competitive negotiation, and single-source negotiation), when used in appropriate situations, is an acceptable method of procurement.” People in the field of government contracting would certainly agree and welcome GAO help in supporting changes.

One of Mr. Hall’s suggestions that should be considered carefully is the one recommending a separate set of regulations for the three major procurement arenas. The military services have been gradually eliminating their implementing instructions in favor of including them in and expanding the Armed Services Procurement Regulations



(ASPR). Thus, this suggestion would have the effect of breaking down again what has just taken a great deal of effort to consolidate. Granted that the breakdown would involve a different method and have a different goal, it still might generate the old problem of different sets of rules to be complied with by the same sellers. Realignment of some government procurement organizations might be necessitated if each of the procurement arenas were considered a separate activity—although this is probably not a serious problem. A possible compromise might be a revision of ASPR to effect the same goal. In any case, anyone with even a remote interest in government procurement will find the time it takes to read Mr. Hall's article well spent.

EDWIN BARTENSTEIN  
*University of Southern California*

**Input-Output Analysis for Cost Accounting, Planning and Control** by JOHN LESLIE LIVINGSTONE, *The Accounting Review*, January, 1969.

*Professor Livingstone builds upon the work of Williams and Griffin, among others, in demonstrating the uses of matrix algebra for interdepartmental cost allocations and other extensions of input-output analysis. To appreciate the article, the reader should have some familiarity with matrix algebra manipulations. Because matrix calculations are inherently laborious, practical application of the techniques presented will require the use of a computer.*

The article begins with a restatement of the example of interdepartmental cost allocation used previously by Williams and Griffin (*Accounting Review*, July, 1964). After the restatement, the author demonstrates the power of input-output analysis by reaching a solution in one matrix multiplication rather than the three matrix opera-

tions used by Williams and Griffin. The problem involved five service departments and three operating departments. The service departments had cost allocations between them with all the service department costs finally allocated to the operating departments.

### **Assumptions**

Professor Livingstone describes the basic input-output model as capable of analyzing transactions among economic activities whether the activities are industries, firms, departments, or cost centers. He strongly cautions that the analysis requires the strict assumptions of only one primary input (usually labor) and only one output for each activity. This balanced relationship ( $n$  activities and  $n$  output commodities) facilitates the application of matrix techniques. It is further assumed that "Production takes place through processes with fixed technological yields of constant proportionality. There is only one process used with no substitution in each activity." The author adds that the latter statement is not meant to imply that alternative processes do not exist but rather that an optimal process with a given set of prices has been selected.

The basis for the input-output model is a matrix of transactions, which may be in monetary or non-monetary terms, with a row and a column for each activity. The rows represent inputs and the columns represent outputs for each activity.

### **Matrix construction**

Professor Livingstone constructs an input coefficient matrix from the primary input costs and the fixed technological coefficients which were assumed. Then a technology matrix is determined by subtracting the input coefficient matrix from an identity matrix. The final demand for each commodity is found by multiplying the technology matrix by the total output vector. If the final demand is given,

the total output vector can be calculated by multiplying the inverse of the technology matrix by the final demand vector.

### **Applications**

After developing the basic input-output model, the author describes some applications. In discussing applications to planning, the author notes that the standard transaction matrix is the transposition of the transaction matrix used previously; that is, the outputs become rows and the inputs become columns. With a given demand vector, the primary input resource requirements can be calculated. This procedure is analogous to the usual process of forecasting sales and determining the resources needed to meet the sales objectives. Professor Livingstone states that the input-output analysis provides internal consistency in the determinations that is not present in the normal budgeting procedures.

Professor Livingstone shows that setting up the transaction matrix in terms of physical quantities and unit costs will permit price and quantity changes to be analyzed in a fashion similar to standard cost variance analysis.

### **Example**

The author demonstrates a useful application of input-output analysis by showing the effect on an interactive system when a constant changes. The vehicle he uses is a wage rate increase in one process of a multiprocess system. He shows that an incremental cost results in a larger cost (which he terms opportunity cost) through the multiplier effect present in an interactive system. A significant advantage in applying input-output analysis to such a system is that "it takes into account the effects on every other activity resulting from the single change...".

The author indicates that the transaction matrix can be expanded to include inventories and a breakdown of the various costs

Management Services: A Magazine of Planning, Systems, and Controls, Vol. 6 [1969], No. 4, Art. 8 which constitute the primary input factors, thus increasing the capabilities of the model.

The input-output analysis described by Professor Livingstone appears to have significant applications in the areas mentioned. It also has potential for interfirm and interindustry analysis. It would be interesting to see a report on some testing of this powerful analytical tool in order to appreciate its full capabilities.

HUGH R. DAWSON, CPA  
*University of Southern California*

**The Compatibility of Auditing Independence and Management Services—An Identification of Issues** by D. R. CARMICHAEL and R. J. SWIERINGA, *The Accounting Review*, October, 1968.

*The authors consider the effect on an auditor's independence when he provides both audit and management services for the same client. The issue is discussed against the background of the existence of different phases of independence and differing types of research methods. Much of the difference in opinion is held to be attributable to differences in basic approach relating to research methodology.*

This article is a review and identification of issues relating to an auditor's independence when the auditor also provides management services for his client. The authors believe that earlier articles have not developed all the phases of independence, and their purpose is to do so in this article by considering phases of independence, arguments relating to these phases, and the relationship of types of evidence to the phases and arguments. The authors believe that differences of evidential approach provide the basis for most of the disagreement and arguments.

The phases of independence are considered first. Professional independence is that approach and attitude that make the auditor self-

reliant and free from control or influence of management in making decisions based on universal standards, specificity of professional expertise, and authority based upon expertise. Audit independence is freedom from any self-interest that might warp the auditor's judgment—either intentionally or unintentionally. Perceived independence is the appearance of independence to the reasonable and knowledgeable individual and to the general public as a whole.

### **Research methods**

Three types of research methods are considered. Survey research is used to discover such things as relative incidence and interrelations of variables; experimental research attempts to determine causal relations among variables; and *a priori* research consists of serious and systematic thinking about problems which does not involve empirical methods.

Much of the difference in arguments as to the independence of an auditor who provides management services for his client is attributable to differences in basic approach relating to research methodology. Advocates of "incompatibility" have been satisfied to demonstrate that combining consulting and auditing has the potential for damaging the auditor's independence or at least damaging perceived independence: the advocates of "compatibility" have demanded absolute proof that independence has been lost. The other major premise on which the two groups differ is the relationship between independence and professionalism. Advocates of "incompatibility" have focused mainly on an absolute sense of independence; advocates of "compatibility," recognizing that independence is but one aspect of professionalism and that there are degrees of independence, have decided that the auditor can achieve the necessary degree of independence and act in the dual role of auditor and consultant.

*A priori* analysis indicates that

performance of management services is entirely compatible with professional independence. While there seems to be no basic incompatibility between consulting and objective audit independence, the consulting relationship is potentially dangerous for maintenance of subjective audit independence. The extent of the danger can probably be determined by experimental research. Previous surveys have indicated that a significant number of observers believe perceived independence is impaired by performance of consulting and auditing for the same client. This aspect can be developed by additional surveys.

When additional research has been done to develop data in the needed areas, the compatibility issue will rest upon differences in approach of the research methods—namely, is the issue to be determined by potential risk, by risk as realized in loss, or by perceived loss in the eyes of the public?

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**The Merger Movement Rides High** by GILBERT BURCK, *Fortune*, February, 1969.

*The rising tide of mergers and acquisitions is beginning to stir doubt and dismay, and no company seems really immune. The author, a financial writer, analyzes the growth of the conglomerate phenomenon and concludes that no formidable obstacles seem to confront the conglomerate movement now.*

A great deal has been written in the financial press lately concerning the great conglomerate movement. Mr. Burck's article summarizes the more important positions that have been taken.

According to estimates by W. T. Grimm & Co. of Chicago, mergers of all kinds (financial, industrial, insurance, retail, etc.) totaled 4,462 during 1968 and will probably

total 5,400 in 1969. According to another financial expert, Nicholas Salgo, by about 1980 there will be only 200 major industrial companies in the United States, all conglomerates.

### **Numbers game**

Mr. Burck uses these statistics to launch his article. He contends that the process of putting conglomerates together tends to expand stock prices long before it expands the economic values on which stock prices ultimately depend, thus making the conglomerate-building process more of a numbers game than anything else. One important factor that makes conglomeration a numbers game is that in many acquisitions stock market prices increase. This can give the appearance of growth where none exists and often produces a chain letter effect whose terminal stages may be painful.

In most mergers the acquiring company has a higher price-earnings ratio than the acquired company, with the net effect that the earnings per share of the merged company in its first year of existence are inevitably higher than those of the acquiring company in the previous year. As long as the merged company, even if not growing, can keep on buying other companies with lower price-earnings ratios, even if they are not growing, its earnings per share will continue to rise. But the day inevitably will come when such a conglomerate will run out of acquisitions. Then, if there has been no internal growth in earnings, earnings per share will fall steeply. When that happens, the market price of the company's stock will probably fall even more as the growth expectations collapse, and the stockholders in the end will be left holding the bag.

### **Pooling of interest**

The most popular method of accounting for acquisitions is the pooling-of-interest method, which

tends to boost earnings per share. In 1965 only 30 per cent of all mergers were accounted for as poolings, but the percentage jumped to more than 60 per cent in 1968.

### **How it helps**

An example of how pooling-of-interest accounting helped one company is the Gulf and Western acquisition program of 1967. During this year Gulf and Western issued securities with a market value of \$185 million in exchange for several companies, including Paramount Pictures. Pooling-of-interest accounting enabled Gulf and Western to record these acquisitions at their previous book value, which was less than \$100 million. In effect, this gave Gulf and Western a submerged income pool, i.e., in determining profits Gulf and Western did not use the actual price paid for Paramount and other properties, which means it was able to generate revenue without having full corresponding costs reflected in the income statement.

The author points out that even if many conglomerates fail to increase earnings on assets, they may still be able to increase earnings on equity by leveraging their capital—shunning new stock issues, reacquiring their own stock, assuming more debt, and otherwise reducing the proportion of equity in their capitalization.

### **Disturbing phenomenon**

This article is an excellent synopsis of a disturbing and amazing financial phenomenon, the current conglomerate movement. The author's examples are interesting to follow, and he leaves no doubt that under existing laws nothing can stop the present merger movement.

However, since this article was written, both the legislative and executive branches of the federal government have shown intense concern with conglomerates. On the legislative front, Wilbur Mills, Chairman of the House Ways and Means Committee, has introduced

a bill that would eliminate some parts of the IRS Code that provide for tax-free exchanges in mergers. From the executive branch, Richard W. McLaren, the new head of the Justice Department's Antitrust Division, has made it clear that the Justice Department is ready to employ existing laws to block mergers between large corporations in unrelated industries.

Thus, what will happen to the merger movement in the future appears to be very speculative at this point in time.

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**Current Cost for Long-Lived Assets: A Critical View** by HOWARD J. SNAVELY, *The Accounting Review*, April 1969.

*Mr. Snavely presents arguments against the use of current cost data for long-lived assets in financial statements. Rather than pursuing the commonly used objections based on lack of objectivity, he attacks the use of current cost on the basis that it lacks relevancy, reliability, and understandability.*

This analysis is based on the assumption that the current cost system for long-lived assets can be supported only because it is needed to reflect changes in prices/costs of specific assets apart from the changes in the general purchasing power. Changes in general purchasing power of the dollar can be reflected without departure from the use of historical cost. The following definitions are necessary to avoid communication problems:

Current cost of a long-lived asset = The least expensive cost of obtaining an equally productive asset at a given date.

Market value of an asset = The dollar amount that could be received for an asset sold as a separate item on a given date.

Real value to the owner = The amount for which the future net

cash receipts attributed to the asset could be sold at a given date if the future were known.

Value of a firm = The real value of all assets, net of liabilities.

Real net income (or loss) = The increase in the value of the firm from period to period exclusive of addition or withdrawal of investment by the owners.

Accounting net income (or loss) = That amount reported as net income on the income statement.

All of the definitions assume an orderly market in which the number of similar assets actually ordered or sold at the given date would not be so large as to increase materially the cost or sales price.

For financial information to be relevant it must be useful. To be reliable, the information contained in the financial statement must be a reasonable representation of what it purports to be. To be understandable, the financial statement must be presented in a manner consistent with the concepts employed by the statement users in making decisions about the firm.

The most relevant cost system to use is the one that will best enable the user to estimate the real value of the firm. Neither historical cost nor current replacement cost is relevant since neither system permits an accurate look into the future. The appropriate question to pursue is: Which system will provide the statement user with the better means of estimating the firm's future value?

### ***Holding gains or losses***

Reported net income should indicate to the user that the firm has had an increase in real value, and, by the same token, a loss signifies a decrease in the real value of the firm. Under the system for using current cost recommended by the American Accounting Association Committee on Basic Accounting Theory, holding gains and losses are to be reported on the income statement when the current cost of

an asset is more or less than at the beginning of the period; however, a real holding gain or loss will result only if the real value of the asset has changed. A pertinent question to ask is: Does a change in the current cost indicate that the real value of the asset has changed? Furthermore, if the current cost does reflect a change in real value, does the current cost accurately measure the change? The answer to both of these questions is "No."

An increase in the current replacement cost of an asset does not mean that the real value has increased. The replacement cost at a given date can be changed by such factors as threat of war, strike, freight rates, substitute products, etc., only part of which may change the future cash receipts or disbursements of the firm. Furthermore, if current costs do indicate a change in real value, the amount of change or the direction of the change may not be determinable.

Holding gains as generally presented represent an additional amount over an asset's depreciated historical cost that would have been paid if the asset had been purchased in the current period. This holding gain is a type of opportunity saving or the additional expense that would have been the result of a current purchase. Unlimited opportunity gains or losses exist in most business situations. What would the savings have been if the company had had a different line of products, hired different executives, or taken any one of the numerous alternatives available? The real holding gains and losses that exist are not limited to those that result from a change in the current cost of the productive assets; therefore, even when a current cost system is used, the real holding gain or loss is not fully recognized.

### ***Relevance of current cost***

Current cost reflects the cost that will be paid to replace an asset under current supply and demand

conditions at the present point in time. Current cost does not reflect historical cost, nor does it represent the replacement cost that will be required by the firm in the future. Also, current cost does not fully reflect all factors that determine the asset's current economic significance, which is the real value of the asset.

### ***Understandability***

Financial statements that cannot be compared on an interperiod and interfirm basis are not understandable. Interperiod comparison of balance sheets that show an increase or decrease in the dollar amount of assets will convey the impression that the firm has had an increase or decrease in assets. If the statement shows an increase in the dollar figures for the firm's assets, the implication is that the firm is "better off." Financial statements that show changes in asset balances due to an increase or decrease in the current cost while the number of assets remains unchanged may be lacking in realism. Furthermore, recognition of the holding gains and losses will affect the rate of return trends since both net income and owner's equity will have been altered.

In interfirm comparisons, the use of current costs will bring assets of the same kind into comparable dollar terms regardless of the date of purchase. However, the improvement in balance sheet comparability is somewhat offset by the effect on the income statement.

### ***Example***

Take for example two firms, A and B, both of which own the same type of asset and are using a current cost system. If both purchase the asset in the same accounting period, Firm A after a cost increase and Firm B before the increase, Firm B must recognize a holding gain in order to reflect better performance than A. In this case, Firm B did perform better than A so far as asset acqui-

sition is concerned. If the same situation occurred but Firm B had purchased the asset in a prior period, recognition of the holding gain for Firm B will still imply that Firm B had better performance than Firm A during the current period. The superior performance by Firm B would more reasonably be attributed to the period of the purchase—not the current period.

In a managerial sense, the current period performance of the two firms is identical; the difference is completely attributable to an outside occurrence—that of a price change. The recognition of the holding gain will tend to misrepresent the relative performance of Firms A and B except in the limited case where they both purchase their assets in the same period but at different cost levels. Thus, it is possible to conclude that the use of current cost data improves the interfirm comparability of the *balance sheet* but not the *income statement*, with an overall loss in comparability because of the greater significance of the income statement.

**A good case**

Mr. Snavelly has made a good case against the use of current cost for long-lived assets. His presentation against current cost might have been strengthened by stressing more strongly that the only useful current cost is the amount that management is willing to pay at the current time. This amount may be affected by technological innovations, market conditions for the firm's product, or input costs for services necessary to use the asset. Since many factors can affect the future output value of a productive asset to a particular firm, there is no real evidence that current replacement cost less depreciation is a better value than historical cost less depreciation. An increase in replacement cost is not necessarily valid evidence of an increase in service potential.

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