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What People Are Writing About

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BOOKS

Marketing Information Systems by KURT H. SCHAFFIR and H. GEORGE TRENTIN, American Management Association, Inc., New York, 1972, 327 pages, $24.

The per-page price of this book is staggeringly high, but the publishers are probably right in their prediction (on the jacket) that it will become the *standard reference book for planning, designing, and operating marketing information systems.*

In the rush to develop management information systems, the authors of this book point out in the preface, marketing has been neglected. The major focus has been on accounting and other financial areas, production planning, and inventory control. Sales analysis and forecasting have received some attention, but on the whole little has been done to provide marketing people with "the kinds of information which should flow logically from an integrated management information system and which would improve their effectiveness in planning and controlling marketing operations."

This is a mistake, the authors believe, not only because marketing is the lifeblood of most companies but also because, since most information flows "start with the marketing function, in the form of forecasts and sales, and then flow through other functions to activate systems in the purchasing, manufacturing, financial, and other areas of the business," neglect of marketing systems means that "all other systems operate at less than peak effectiveness."

The authors, both partners on the management consulting side of Arthur Andersen & Co., have set out to correct that error. In so doing they have produced what seems to be the first complete manual for design and operation of a marketing information system. It is a real contribution to the systems designer's reference library and to the marketing man's as well.

The authors of this tightly packed volume start by describing the major components of a marketing information system—the information needs of the various managers within the marketing organization and how they can be met. Then they relate this functional concept to an integrated total management information system.

Criticizes "by-product" approach

These authors are strongly opposed to what they call "by-product" systems for marketing information, systems that provide only information available as a by-product of order handling, billing, and accounting operations. Most present systems are of this type, the authors report, because the information is considered "free" of cost.

There are several pitfalls in this notion: Much information useful or necessary for marketing purposes is not necessarily captured in the order entry, billing, and accounting process unless special provisions are made for it. Special marketing analyses and tabulations of sales or profits for particular groups of customers or products are generally not available unless specific provisions for necessary coding have been built into the system. On-request reporting is slow, cumbersome, and expensive.

"In general," the authors warn, "by-product systems are limited to internal phases of data collection, cost analysis, and performance reporting. They are severely lacking with respect to external market-oriented information and to search, screening, forecasting, and activity planning and reporting."

Far better, the book suggests, is an information system especially designed for marketing but tied to the rest of an integrated total system. The authors go on to spell out how the marketing information system concept can be applied to customer service, sales performance, operational and financial control reports, sales force compensation, and advertising and promotion.

One chapter covers "the emerging information needs of the new function typified by the 'vice president for distribution,' often a no-man's-land of responsibility and knowledge." Information needs in connection with Government anti-trust statutes, which make knowledge of cost differentials between customers of different types and sizes a prerequisite to pricing, also are given special attention. Other chapters link marketing to electronic data processing, to other functional areas of management, and to operations research.

The book also contains two complete case studies in the design and installation of marketing information systems based on Arthur Andersen-designed systems the authors consider successful. Since conditions in industrial and consumer markets differ, there is a separate case study for each.

Other chapters discuss specialized applications—retailing, advertising agencies, and finance and banking. The final chapter deals with the basic approach to implementing an information system and its parts and the marketing manager's role in the process.

The language of this book is clear and simple if not sparkling; the coverage is both thorough and comprehensive; and the orientation is practical. There are 160 exhibits —tables, charts, forms, and reports ranging from organization charts, job descriptions, and customer profiles to flow charts, sales analyses, and financial reports. To consultants, systems men, and marketing executives, this book should be worth the money.

Managerial Comparisons of Four Developed Countries: France, Britain, the United States, and Russia by DAVID GRANICK, The MIT Press, Cambridge, Mass., 1972, 394 pages, $15.

Every industrialized country has its own style of management, and some are more conducive to economic growth than others. Those of Britain and France—although very different from each other—are not very growth-promoting, this author seeks to prove in a book whose description of management mores in four major countries is likely to prove more interesting to Americans than his thesis.

Industrial productivity (output per man hour) has increased more rapidly in Western Europe than in the United States since World War II but still is only about half that of this country. Why? The author's hypothesis is that British and French companies, at least, adapt less rapidly to change, and for that he puts the blame squarely on management.

In this book, which is primarily a study in comparative management despite its economic pretensions, Professor Granick examines managers' value systems, backgrounds, and selection and award procedures in Britain and France and attempts to show how these factors affect their performance. Only Britain and France are studied in detail, but managerial behavior there is frequently compared with that of the United States and of the Soviet Union (a country whose managers he described in a book that won attention some years ago).

The basic source of his information was a series of intensive interviews carried out in France and Britain over a period of 18 months in 1963-1965. Seven French and three British companies, all large, were studied in depth and were revisited on a six-week trip in 1967. Less intensive interviews were conducted in ten large American companies and during a two-week visit to Russia in 1967.

The ten French and British companies are given full-scale case-study treatment in the book. The case studies are fascinating in themselves, but the author's generalizations about British and French management are by far the most interesting part of the book.

The British companies studied are all highly decentralized, with thin headquarters staffs and little effort at coordination and control. The operating divisions are run like independent companies, with little attention paid to overall corporate goals, which in any case are seldom communicated even if they happen to be spelled out.

"Suboptimization" in UK, France

The resulting tendency toward "suboptimization" (pursuit of the profitability of the divisions rather than of the whole) is further intensified by the pattern of management training, selection, and compensation in Britain. Business management has the lowest status in Britain of any of the four countries compared, and selection standards are loose. In the sense that almost anybody can get into the act—and also in the sense that promotion opportunities are not restricted to favored groups—British management is much more democratic than that of the other three countries discussed.

British managers typically do not come from the better schools (which send their products into government and the professions). They start young and are promoted chiefly on the basis of their performance records, with frequent shifts from one company to another. Salary scales are relatively low, and promotion is the best route to higher compensation, although bonuses, usually based on profitability or technical performance, are also common.

In France, on the other hand, companies are highly centralized. The central control is often so tight, however, that headquarters, also usually thinly staffed, cannot even exert it. The result is sometimes complete chaos at the divisional level. Furthermore, the extreme secrecy which French corporate headquarters groups often display about corporate goals, plans, and results makes it impossible for divisional executives to work in the overall corporate interest even if they wanted to.

The kind of suboptimization that prevails in French companies is different, however, from that characteristic of Britain. It is not directed at increasing the profits of the operating unit but rather at professional accomplishment in functional units—the best research, the most efficient plant, the largest sales volume.

The reason lies in the French system of recruiting and promoting managers. The top jobs, aside from those that go to members of the owning family, if there is one, are reserved for graduates of a few top engineering schools. Only these graduates, marked and identifiable from the moment they enter the company, are ever promoted beyond the functional brackets in middle management.

Management policies

Professor Granick also describes how specific management policies—the lack of long-range planning, the lack of horizontal mobility for managers (except between companies in Britain), the structure of transfer pricing—reinforce the tendencies toward suboptimization and functional optimization.

There is more—much more—and all of it is fascinating. Professor Granick's efforts to prove his hypothesis about productivity and growth are technical, sometimes mathematical, and somewhat hard to follow. Only an economist could say whether he really proves anything, but, actually, only an economist could care.

Guidelines useful to all business

For the American businessman or consultant, who really doesn't care very much about theories of economic growth, the raw material is enough. Anyone who has to deal with managers in Britain or France (or, for that matter, in the Soviet Union) will find invaluable guidance here. And, of course, any account of the successes and failures of other managements provides useful clues to pitfalls and opportunities in the American corporation as well.

The Fur-lined Mousetrap by C. NORTHCOTE PARKINSON, Leviathan House Ltd., London and New York, 1972, 109 pages, $5.75.

C. Northcote Parkinson is unquestionably the greatest living humorous writer on management. His numerous imitators are but pale shadows of the discoverer of Parkinson's Law. So, unfortunately, is Parkinson himself in this latest effort.

Parkinson's Law, that work expands to fill the time allotted to it, was one of the most significant of all insights into the human work situation. No other principle of management has its universality or its immutability.

Parkinson proves that in this new book by easily demolishing Peter's Principle, showing at the same time that he will brook no competition.

Peter's Principle, first enunciated by Laurence J. Peter, is that in a hierarchy every employee tends to rise to his level of incompetence. In Parkinson's words, "So long as anyone works efficiently he is regarded as suitable for promotion. Successive promotions bring him to a level in the organization at which he proves incompetent, the work being beyond his ability. . . . By this process the majority of posts come to be filled by incompetent people who remain in office until they retire."

This theory, Parkinson, suggests, was probably put forward as a joke and should not be taken seriously. "It does not accord with our actual experience, nor does it stand up to critical scrutiny."

It is, he says, implausible in view of the pyramid structure of business. "If we assume with Dr. Peter that the president is incompetent . . . we have to deduce either (a) that there was nobody fit for the top post or (b) that those who would have been suitable are lower in the organization and are therefore below their level of competence. . . . The narrowing of the pyramid holds people down irrespective of their competence. . . . Given an oblong, the Peter Principle might at least be plausible. Given a pyramid, it is plainly incorrect."

Basically, however, says Parkinson, Peter's Principle falls down over the word "competent." Peter assigns "to each human being a 'ceiling' in terms of ability, a level above which he will prove incompetent. . . . Peter's Principle assumes that each person's level of competence is as permanent as his height and blood group. . . . Some human characteristics, like intelligence, are plainly hereditary, but the basic requirement for efficiency —a reluctance to go home until the job is properly done—is as variable as the wind. . . . The fixed ceiling of competence is a myth, as has been proved repeatedly in time of revolution."

Consultants analyzed kindly

Just to prove that there are no hard feelings, Parkinson analyzes Dr. Peter's professional background to see how he arrived at his principle. Noting that Dr. Peter is an educator, Parkinson lambastes the field of "educationalization" and the brotherhood of the Ed.D., "an enclave of people committed to the study of nothing. It is in these surroundings that Dr. Peter bewails the fact that most people are incompetent. He has lived most of his life, one suspects, in a world where that is literally true."

Parkinson's resounding victory over Peter is the high spot of this little book of essays. There are other chapters that will be of interest to accountants and consultants, most notably a surprisingly warm defense of the consulting profession:

". . . while there are examples of ex-consultants who have succeeded in business, the born consultant would never attempt it. He knows that his mind is on a different wavelength. . . . Like an actor, he has to throw himself into a part. . . . Like the signpost by the roadside, the born consultant points the way but does not follow it."

"In what sense is he an expert? . . . his experience mostly relates to the time of crisis. . . . Five years' work as a consultant is the equivalent of 50 years in ordinary business because the whole of that period has been devoted to the most difficult problems."

Excessive overhead dissected

The wisest of Parkinson's chapters is that on overhead, one in which he is able to hark back to familiar themes. He finds four major reasons for excessive overhead:

The most universal is fluctuating workload, which is easily solved by the use of temporary employees.

A cause that is more difficult to handle is growth in the size of the organization, which leads to "people making work for each other . . . any office which can boast a thousand employees is likely to be administratively self-sufficient. . . . Such an office can live on the paper it produces, its executives spending their time in reading each other's memoranda."

A related cause may be the technique of control applied by the head office. Overcentralization not only kills all initiative on the periphery of the organization; it also kills all leisure at the center. "The paper arrives in a quantity directly related to the degree of centralization that is being imposed."

The work load also is affected by another factor—"the traditional emphasis on things as opposed to time. The historic obsession of the head office is with equipment, machines, goods and tools. . . . The discovery that the nurses' time spent in checking the inventory is worth more than the missing chamber-pot is something very recent in hospital practice."

Four other essays in the book are business-related. The title essay analyzes the substitution of permanent inflation for the traditional business cycle and finds it to be a cul-de-sac. A chapter on incentives and penalties, while sound enough, is neither original nor funny. "Advertise or perish" argues that supply creates demand. A chapter on business and government praises what Parkinson sees as the instinctive internationalism of business and urges "a world organization of Big Business . . . in world affairs (as in other fields of enterprise) the best lubricant is probably Oil."

The other topics covered in the book are of more general interest—although not very interesting. They range from the nature of humor and genius through demonstrations and the revolt of youth to the desirability of driving on the left hand side of the road: "Left is right."

To rephrase Parkinson's own Law, books by a successful author expand to fill the demand. Not all of them are of equal quality or meet a real need.

Whistle Blowing: The Report of the Conference on Professional Responsibility by RALPH NADER, PETER PETKAS, and KATE BLACKWELL (editors), Grossman Publishers, Inc., New York, 302 pages, $6.95.

It was a General Motors engineer who first called Ralph Nader's attention to the hazards of the Corvair and launched the latter on a spectacular career of what he calls "full-time citizenship." That engineer was Nader's first whistle blower. This book presents the stories of some three dozen others, along with a discussion of the whys, whens, and hows of whistle blowing.

"Whistle blowing" is defined by Ralph Nader as "the act of a man or woman who, believing that the public interest overrides the interest of the organization he serves, publicly 'blows the whistle' if the organization is involved in corrupt, illegal, fraudulent, or harmful activity."

Two years ago Ralph Nader and his Clearinghouse for Professional Responsibility organized a conference to bring together some of the leading exponents of whistle blowing and some whistle blowers themselves. This book is the result of that conference. It is much more than simply a conference report, however, for chapters based on additional research have been added to make what is undoubtedly the first manual of whistle blowing.

The first four chapters of the book are the four keynote speeches given at the conference. Ralph Nader pointed out that the existence of large corporations with a system of "private government" calls for extension of the traditional concept of civil liberties, originally conceived as protections against arbitrary government power. Sen. William Proxmire of Wisconsin called attention to the abuses of the Defense establishment and the need for legal protections for whistle blowers. Robert Townsend, former chief executive of Avis Rent-a-Car, suggested that whistle blowing may be the only way to save the free enterprise system. Prof. Arthur S. Miller of the National Law Center, George Washington University, called for changes in the law to protect government and corporate employees against arbitrary treatment.

Then the stories of some notable whistle blowers are told, a dozen of them in detail and some two dozen others in capsule form. The case studies start with A. Ernest Fitzgerald, author of *The High Priests of Waste,* who exposed cost overruns on the C-5A plane, and include Dr. John W. Gofman and Dr. Arthur R. Tamplin, who challenged the Atomic Energy Commission's radiation health standards; Ralph Stein and Christopher Pyle, who disclosed Army spying on civilians; Dr. Jacqueline Verrett, who helped kick off the cyclamate scare; Charles Pettis, who attacked unsound design and construction by a construction company building a road across the Andes; and workers at the West Hartford, Conn., plant of the Colt Firearms Company, who revealed deception in the testing of rifles bound for Vietnam.

The research-based chapters analyze the problems of whistle blowing within the corporation and within the government and urge legal changes and changes of policy on the part of the Civil Service Commission, private industry, unions, and professional societies. The final chapter offers ethical and practical advice to the would-be whistle blower.

This is a fascinating, disturbing, and yet hopeful book. Somehow, despite some horrendous case studies, it conveys Ralph Nader's own optimism that individual freedom has not yet been smothered by governmental and corporate bureaucracy, that there are those who care, and that their effectiveness is growing.

Above all, since most whistle blowers are people caught up in a conflict between professional standards of one sort or another and the facts of economic life, this is a book for professionals to read, particularly those who are active in the leadership of their professional societies. It is a powerful reminder of their ethical responsibility to police the wrongdoers in their professions and to support those who speak up for the right.

The Managerial Revolution Reassessed: Family Control in America's Large Corporations by PHILIP H. BURCH, JR., Lexington Books, D. C. Heath and Company, Lexington, Mass., 1972, 195 pages, $12.50.

This author attempts to prove, by means of what seems to have been a rather thorough piece of research, that private control of publicly owned corporations has not declined nearly so much as economists and management theorists have assumed.

Ever since Adolf A. Berle, Jr., and Gardiner C. Means published *The Modern Corporation and Private Property,* in 1932, their thesis that the growing dispersion of stock ownership in the United States has resulted in a shift of corporate power from owners to professional managers has increasingly become part of the conventional wisdom. After James Burnham coined the phrase, "the managerial revolution," to describe this phenomenon, the assumption was widely accepted by the public as well as by economists and writers on management.

Mr. Burch (whose qualifications in the field are not explained by his publishers apart from the statement of some undefined affiliation with Rutgers University), was not so sure, however. In this book he seeks to disprove the Berle-Means thesis by means of a research study whose methodology, he says, is superior to theirs. As sources, in addition to proxy statements and Securities and Exchange Commission "insider" reports, he used Standard & Poor's *Corporation Records, Fortune, Forbes, Business Week, The New York Times, Time,* and *Moody's.*

He classified a company as probably under family control if two conditions were met: 1. if 4 to 5 per cent or more was held by a family, group of families, or some affluent individual, according to any of the sources he used, and 2. there had been either inside or outside representation on the part of a family on the board of directors of a company, generally over an extended period of time. The companies picked for the study were the first 300 of the *Fortune* list of the top 500 industrials; *Fortune*'s top 50 merchandising firms; its top 50 transportation companies; and its top 50 commercial banks, all from the 1965 lists. The findings are summarized in tables that contain a company-by-company breakdown of control status, sometimes with supporting evidence.

Mr. Burch found more than 40 per cent of the top 300 industrial companies to be probably under family control (although only 20 per cent of the top 50); 58 per cent of the top 50 merchandising firms; 36 per cent of the top 50 transportation companies; and 30 per cent of the top 50 commercial banks.

In his discussion of his results he identified interesting regional and product factors that seemed to affect patterns of control. He did not find any correlation with age, however, challenging the assumption that companies typically are started by entrepreneurs and eventually pass out of family control into the hands of professional managers.

An important book

This book, although short, concise, and heavily footnoted, makes fascinating reading for anyone interested in management as well as for economists and political scientists. If Mr. Burch is correct in his analysis, he has written a very important book indeed.

Briefly listed

Getting Acquainted with Accounting by JOHN L. CAREY, Houghton Mifflin Company, Boston, Mass., 1973, 156 pages, $3.50 (paper bound).

Intended as a supplement to a principal textbook or a first course in accounting, this little volume by the former administrative vice president of the AICPA seeks to provide a broad perspective on the role of accounting without getting bogged down in mechanics and procedures. Its stress on the history, philosophy, development, and end uses of accounting and the profession's relation to economic and social problems is intended to supply a background that is often omitted in elementary accounting courses.

Compensation of Professionals: A Selected and Annotated Bibliography by N. CARROLL MOHN, Bureau of Business Research, Graduate School of Business, The University of Texas at Austin, 1972, 85 pages, $2 (paper bound).

This study, a survey of the literature on professional compensation, seeks to synthesize the research findings regarding theory and practice in this field. The first section analyzes general conclusions, impressions, and inferences about professional compensation. The second section is the bibliography itself. The books and articles listed (and summarized) were selected "from all applicable areas of compensation research. They were chosen for their empirical demonstration of findings, their timeliness, their import, or some combination of those criteria."

MAGAZINES

Improving Product Abandonment Decisions by PAUL W. HAMELMAN and EDWARD M. MAZZE, *Journal of Marketing*, April, 1972.

This article describes a product review evaluation model which views the total product line as a set of interrelated elements, each of which places varying demands on the resources of the firm. Inputs to the model consist of standard cost accounting and market information data. The model called PRESS is easily adaptable to most product lines and readily implemented.

Because firms are continually introducing new products into the market it is imperative that some of these products eventually be deleted. The authors present a systematic approach for management to use in determining which products to eliminate.

Paul W. Hamelman and Edward M. Mazze point out three older approaches which have been presented. One by Berenson considered five major decision factors: financial security, financial opportunity based on phase of the product in its life cycle, marketing strategy, social responsibility, and the possibility of organized intervention against product deletion. The second, by Hurst, suggested ten bases for deletion analysis: profitability, scope of product line, marketing efficiency, production efficiency, cost price, value, quality, service, and competition. The Hurst approach was criticized for its lack of analytical method for performing the analysis. The third approach, by Katler, proposed a six-step analysis which would utilize PERT to achieve a planned product phase-out.

Product abandonment decisions

The Hamelman and Mazze model utilizes standard cost accounting data and the computer to help management arrive at product abandonment decisions. The model doesn't consider fixed-facilities costs because the authors consider them sunk costs which are unaffected by the abandonment decision. Also, two assumptions were made in developing the model: 1) the available production factors can be utilized to produce any pattern in the line, and 2) contribution margin is the primary criterion for comparing the value of products. The model referred to as PRESS (Product Review and Evaluation Subsystem) consists of four integrated steps or parts, PRESS I through IV. In PRESS I the basis for comparison is the Selection Index Number (SIN) which is a measure of the product's present contribution margin divided by its per cent utilization of the firm's resources. The authors note that the lower the SIN the greater the probability for deletion. However, no decision would be made until the other three steps in the model were carried out.

PRESS II continues the analysis with a look at price-volume relationships and a narrow segment of the demand curve. The model is designed to be used for either the entire product field or selected products which proved to be candidates for deletion under PRESS I. This phase of the analysis assists in evaluating whether current prices should be changed.

PRESS III looks at sales trends not only to determine candidates for deletion but also to identify those which may become good revenue producers in the future. Once the results of this phase are evaluated, new PRESS data is obtained and reevaluated. New SIN values and product listings are obtained which further assist management in deciding which products to delete.

PRESS IV considers the product's complementary qualities and the possibility of substituting one product for another. Under this phase of the model a new decision factor called RESIN is introduced to reflect tie-in sales and replacement sales which would result from a product deletion. RESIN is simply the initial SIN adjusted upward or downward for tie-in sales or replacement sales respectively. This phase of the model results in an automatic product deletion based on predetermined specifications by management. An example is presented by the authors in which management determined that labor costs may be reduced by 20 per cent to handle a new product soon to be introduced. PRESS IV systematically eliminates products until the 20 per cent reduction in labor costs is achieved.

Hamelman and Mazze tested their model with data obtained from the Devon Furniture Company for illustrative purposes. The results are presented in their article. In their conclusion the authors reemphasize the need for a fully developed and up-dated standard cost accounting system.

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Operational Auditing: A Part of the Control Process by C. T. NORGAARD, *Management Accounting*, March, 1972.

Operational auditing enables management to evaluate current control concepts and to determine areas of potential difficulties.

Today's organizations have become increasingly complex. As a result, the chain of delegated authority has lengthened and the control process has become more fragmented. According to Norgaard, operational auditing is an activity concerned with the evaluation of management and its operational controls for the purpose of making recommendations that will lead to increased operating efficiency. Robert N. Anthony has suggested there exist within a firm three control processes: "strategic planning," "management control," and "operational control." Operational auditing is directly concerned with the last of these, but the first two establish the scope and constraints within which the operational auditor must perform. Thus, operational auditing is a concept that provides internal rather than external information.

Operational auditing and financial auditing differ in three respects. First, the financial audit seeks to determine the fairness of financial statements; whereas, the operational audit is concerned with the efficiency and adequacy of management and operational controls. Second, since the operational auditor must be familiar with general controls of the organization, he must possess skills more all-encompassing than those of the financial auditor. Third, the financial audit deals with past performance, while the operational audit is oriented toward the future.

Procedural aspects

Basically, Norgaard suggests a procedure for conducting an operational audit quite similar to those procedures followed in the more familiar systems studies. After selecting the area of concentration, the operational auditor would initially conduct a general review. The main objectives would be to determine (1) the functions of the audit unit, (2) the place of the audit unit in the overall structure of the organization, (3) the organizational structure of the unit being examined, (4) the personnel and physical facilities, and (5) the constraints which have been placed on the operations of the audit unit.

The second phase is a review of management control. The auditor is concerned with determining the operating controls within which the regular operations of the enterprise take place.

The third phase is an operational control review. This area centers on the way in which the day-to-day tasks are being carried out. The auditor seeks to determine how effectively operational controls are being used.

The final report

Perhaps the most important stage of the audit is the presentation of the final report, since it is on this basis that corrective action will be taken or ignored. Norgaard suggests that each situation is unique in terms of the reporting function, but that the following general guidelines may prove fruitful:

1. Summarizing all critical findings and recommendations on one page with supporting detail given in the body of the report.
2. Attaching dollar costs to the inefficiencies uncovered where this can be realistically done.
3. Discussing the findings of the audit with the responsible personnel in the area being audited and allowing such personnel to formulate a written response to the findings which will be circulated with the audit report.

The operational auditor contributes to the evaluation process in three ways. First, the audit he performs is a well organized and systematic approach to the problem of evaluating management and operational controls. Second, the operational auditor is in a position to see the firm as a total unit. Third, the operational auditor can make an unbiased examination due to his objectivity and independence.

Dr. Norgaard suggests that the operational audit is a vital function in the control process as a problem seeker rather than a problem solver. It is in this respect that the operational audit will be most beneficial to the organization. That is, all firms will seek to correct existing problems; whereas, the operational audit functions as a method of determining undiscovered or potential problem areas.

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Computers Pay Off in Marketing
by Victor Cook, *Business Horizons,* April, 1972.

Although CISCEPCISMs (comprehensive, instant, sophisticated, nearly costless, effective, profitable, computer information systems in marketing) have not been paying off in marketing, computers can pay off if a more realistic approach is taken. Mr. Cook describes a hypothetical CISCEPCISM and then goes on to discuss a more realistic system which is a simplified representation of the complex market situation.

Mr. Cook outlines a hypothetical example of CISCEPCISM which is comprehensive, sophisticated, and desirable. He says that the one thing wrong with a CISCEPCISM is its lack of feasibility. Mr. Cook's hypothetical computer planning system consisted of a series of five groups of models. The first class of models consisted of models dealing with the environments faced by the firm—political, cultural, and economic. Although data can be gathered and relationships found between market factors and demand for the firm's specific products, the task is difficult and failures are more common than successes.

The second group of models in the hypothetical CISCEPCISM is concerned with the "marketing decision models." Mr. Cook's CISCEPCISM contained interdependent nonlinear models that dealt with the company's and its competitor's marketing decision areas. Data collection and analysis in these areas is usually beyond the capabilities of the most talented corporate research departments. Here again the CISCEPCISM falls short of being a feasible system.

Models concerning the distribution system are encountered next. They would pose relatively few problems for data gathering and analysis. The "buyer behavior model" follows and, finally, leads to the fifth group of models concerning demand, market shares, and corporate costs. The whole system would be ideal—if it were feasible.

Because a CISCEPCISM is not the answer to the marketing man's information systems problem, he ought to adopt a more realistic view of what computers should do in marketing. Mr. Cook describes a realistic computerized marketing information system in a short scenario. The scenario indicates how a marketing vice-president, a brand manager, and his market research assistant can discuss and analyze marketing and profit plans for one of the 15 product markets of a large consumer products firm.

The "realistic" system described by Mr. Cook is more micro in nature than a CISCEPCISM, yet allows enough of the market variables to be used to generate meaningful market and profit plans. Base plan projections can be made for market subdistricts or regions as well as for an entire market. Such a system allows for more than one forecasting method to be used (regression or exponential smoothing). One of the most desirable aspects of the system is that changes in parameters as well as decision variables can be made with ease. The parameters that can be changed in a marketing decision model such as this include: time periods used, geographic market areas, brands, sizes, and changes in planned marketing activities. The "realistic" model presented by Mr. Cook allows the managers to see the results of their changes in parameters and variables almost instantaneously via a computer terminal console. As a result, the computer can quickly prove the accuracy of many hunches and estimates held by managers and allows them to adjust their thinking immediately for making better forecasts.

The "realistic" system differed from the hypothetical CISCEPCISM in two ways: first, the system was a much simplified representation of the complex market; and second, the type of system can pay for itself in a short period of time. Since the data and computer technology for the system described in the scenario have been available for years in some companies, systems like this could be installed for brand managers in most large companies.

A system like the "realistic" one presented by Mr. Cook needs the following seven characteristics to become a reality:

- Relevant information
- Manager understanding and commitment
- Use of available data
- Elimination of the middleman
- Conversational, fast communication
- Modular construction
- Easy duplication.

If a system possesses these seven characteristics it will be relatively simple and yet do many of the jobs a brand manager would do, only more efficiently.

When costs versus benefits are compared, we can look at the development costs in two ways. Full development costs for the realistic system totaled $24,000 including planning, designing, programing, creating historical data files, computer time, debugging, initial manager training, and report preparation. Because the system was designed to be duplicated for ten other product categories at an average cost of $5,000 per duplication, the average cost for each system becomes about $6,700. If one were to assume that the system was used 20 days at six hours per day over the year, day-to-day operating costs would amount to $1,326 per year.

The benefits of the system come from four sources:

- Decreases in the amount of the manager's time spent on routine tasks,
- Effective alternative use of the manager's time,
- Better (more accurate and reliable) forecasts,
- More efficient use of the marketing budget.

While the last two benefits depend largely on the manager's abilities and how he uses the additional time available, Mr. Cook concludes that the manager would save at least one month per year which, if put to use on better forecasts, would cause benefits to exceed costs for the system.

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Allocating Resources Between Research and Development: A Macro Analysis by D. P. GAVER and V. SRINIVASAN, *Management Science-Theory*, May, 1972.

The interrelationship between research and development expenditures are examined using techniques developed for solving waiting-line problems.

In order for a firm to be successful, it must allocate its resources to various subactivities in an optimal manner. Two of these activities, research, which is concerned with the determination of new ideas, and development, which includes all activities necessary to make the idea commercially feasible, are considered. If a firm fails to complete a program of research and development, others might surpass it causing a decrease in profits. The chance of this happening is believed to be inversely related to the amount spent.

A business must coordinate the activities of its research and development departments. One method of providing this coordination is to consider the research function as an input population and the development process to be the service mechanism. Thus, the problem can be solved by using queuing theory. Allowing certain assumptions about arrival and service, a simple queuing problem is developed. The probability of losing the introduction of a new product to a competitor is assumed to be an exponential function of the time it takes a company to market an idea and a measure of the amount of competition previously faced. Since costs are assumed to be linear, a simple profit function is available which is dependent upon the amount of profit expected from all ideas and the research and development costs. Differentiation can be used to find the maximum profit for a given level of research or development expenditures and changes in competitors' efforts to market new products.

Next, the service mechanism is changed. As the backlog of research ideas expands, the development activity will increase its ability to process them. To accomplish this, adjustments in personnel and subcontracting are undertaken. It is further assumed that if another firm markets an idea first, the project is abandoned by all others. The profit function is adjusted to consider these changes. Optimal solutions are found once again by using differentiation.

The previous examples considered only the two departments on a macro level. Simulation is suggested as an approach to include more realism in the model and present solutions for individual ideas. Using this method, each idea could be examined with respect to a finer division of duties within each area. Other benefits are also suggested from using simulation. However, the reader is reminded that simulation is an evaluative approach. It is suggested that simulation and one of the queuing models could be used to obtain the most profitable solution for a given project.

Some questionable assumptions

Based upon the discussion presented, several of the critical assumptions of the queuing model appear to be questionable. The arrival of new ideas is assumed to follow a Poisson curve. A quotation from another article does not prove that the probability of an event is proportional to the time interval or that the probability of more than one event in a time period approaches zero. It is also assumed that the service time is exponential. Others have suggested that this distribution considers the time in service to be independent of the probability of completion within another time interval. The description of development does not seem to fit this criteria. Since the distributions may not follow a Poisson curve and be exponential, the solutions suggested may lack realism. By assuming a macro approach an interesting problem facing managers is avoided. The queue discipline is assumed to be operating on a first-in first-out basis. Considering profitability as the manager's only goal, it would appear that minimizing waiting time for all ideas is not necessarily the optimal solution. However, the article does present an interesting application of queuing theory and suggests additional areas of research which are of interest to managers and accountants.

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Verification of Management Representations: A First Step Toward Independent Audits of Management by JACK C. ROBERTSON and ROBERT W. CLARKE, *The Accounting Review*, July, 1971.

The authors study the problems involved in using generally accepted financial audit procedures to determine the verifiability of those items not covered by the auditor's opinion with a view to extending the attest function to the entire corporate annual report.

An appraisal of the Robertson and Clarke article is facilitated by reference to some earlier publications in a related vein. In their monograph, *The Philosophy of Auditing*, published by the American Accounting Association, Mautz and Sharaf challenged the profession to respond to the public's demand for the verification of more information than that traditionally attested to in financial statements. Their thesis was that there were literally no bounds to the profession's future if its members responded to this important public need and that there was a major risk of loss of eminence should the profession ignore it. Since that time, the literature of accounting has been replete with proposals to extend the attest function to numerous areas including interim reports, financial releases, future expectations of the firm, and the non-audited portions of corporate annual reports, to mention only a very few.

In October, 1968, an article by Robert W. Clarke entitled, "Extension of the CPA's Attest Function in Corporate Annual Reports," appeared in *The Accounting Review*. Clarke explored extending the coverage of the auditor's report to include information included in corporate annual reports but not attested to by the auditor in spite of the importance of such data in making sound investment decisions. He proposed that the auditor's opinion be extended to include this information, assuming that it was feasible from both economic and legalistic points of view.

Can representations be verified

One year later, a second article appeared in *The Accounting Review* entitled, "A Theoretical Structure for Independent Audits of Management." In this work, which was closely related to the Clarke article, Langenderfer and Robertson developed a tentative theory and called for empirical research to confirm or disprove their set of hypotheses.

The article now under review is a further extension of this thrust. The authors' thesis is that an audit of management's rerpesentations in the non-audited sections of corporate annual reports would be a significant step toward an audit of management itself and that professional, independent audits of these representations would assure the investing public of their reliability. The authors' specific purpose was to perform empirical testing of the first hypothesis described in the Langenderfer-Robertson article, i.e., that management representations are verifiable. Their research was designated to determine whether the evidence produced by "generally accepted financial audit procedures" (an undefined term, apparently coined by the authors) is sufficient for the verification of management's representations to the public.

Studied unaudited information

The authors chose the unaudited information in published annual reports as the basis for their study. The journalistic research technique of content analysis was used to determine what in fact is represented in annual reports and to determine the relative weight given to each of 20 topical categories of information that they perceived to be common to the majority of the reports included in their sample. These ratio-weights revealed four major categories of unaudited information as follows:

1) Financial	43.8%
2) Marketing, expansion, organization	40.1
3) Innovation, acquisition, management	14.9
4) Social-external	1.2

To determine whether sufficient competent evidence could be obtained to provide a basis for judging the reliability of management's representations, the authors next examined each of the 20 topical categories to determine if generally accepted financial audit procedures would provide a basis for their verification. Using apparently subjective tests, an evidence ratio was calculated which purported to reveal the amount of evidence that current audit procedures could contribute toward the verification of each category. These evidence-ratios were then multiplied by the ratio-weights to reveal an evidence contribution ratio for each category to show the contribution each category of information made toward verification of the annual report taken as a whole.

Summing these individual contribution ratios, Robertson and Clarke found that the use of accepted audit procedures could contribute only 65 per cent of the evidence required for attestation of annual report content taken as a whole. This amount was insufficient for rendering an opinion. While their hypothesis was disproved, the authors did discover that, for some topical categories, a great deal of evidence was contributed by current audit procedures and for other categories, very little. Examples of the former are special financial data and organization charts. The latter categories include marketing environment and social-external items. A further finding was that the higher the space devoted to the category grouping by management, the more evidence it contributed to the verifiability of the report. Accordingly, the authors recommend (1) that the auditor's opinion be extended immediately to financial and economic data which, as would be expected, are most amenable to attestation, and (2) that new audit techniques be developed to permit ultimate attestation to all currently unaudited items.

This article is recommended to all who are interested in the future thrust of attestation. The authors have shed some light on the problems of rendering opinions on the entire annual corporate financial report. Their findings contain no surprises, but they have identified areas in which research into new audit techniques might be fruitful.

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