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Major trends for some time have indicated the importance to management of specific marketing measurements and plans. Now the cost-price squeeze has accelerated the movement toward —

DOWN-TO-EARTH MARKETING INFORMATION SYSTEMS

*by Neil Doppelt
Arthur Andersen & Co.*

AS THE cost-price squeeze continues to handicap many companies, increasing attention is being paid, not only to every effort to cut costs but also to every possible way to increase sales and profits. This has focused attention on marketing efforts—and marketing management—as it has never been directed before.

The accountant, whether he is internal or external, has a vital role to play in this increasing attention to marketing activities.

This concentration, while it is rather belated in some companies, is only an acceleration of trends

that have been visible for some time.

Actions to improve the management of marketing activities and to increase senior management's understanding of marketing functions have been prompted by three key factors:

1. More companies are adopting a definition of marketing operations that goes beyond the simple mechanics of selling products to consumers. This "marketing concept" begins when the company interprets the consumer's needs and desires, both quantitatively and qualitatively; follows through with all

the business activities involved in the flow of goods and services from producer to consumer; and ends with those services necessary to aid the consumer in getting the expected utility from the products he has purchased. In order to adopt the marketing concept in deed as well as word, companies must approach the market place with respect and flexibility, rather than trying to succeed with brute force.

2. Investments in advertising, sales promotion, market research, salesmen, and new product development are increasing. Possible profit improvements by making

Marketing information needs have usually been satisfied on a piecemeal basis

more effective use of marketing resources are often much larger than the prospects of achieving significant product cost reductions.

3. The outputs of the marketing department are critical to orderly and efficient operations throughout the organization. Marketing forecasts and budgets become the basis for production schedules, cash flow projections, and profit plans. Conversely, lack of detail, accuracy, or timeliness in marketing planning can impair the profit potential for products or services that are otherwise strong and competitive.

Past neglect—why?

If marketing is so important, why do many companies find themselves with fragmented or nonexistent planning and control systems in this area? Several reasons can be pinpointed:

- Partially by design and partially by accident, marketing often becomes isolated from other operating departments. Senior executives accustomed to dealing with straightforward information about machine hours, inventory turns, and sales volume are reluctant to dig into the supposedly less precise areas of marketing decisions. In some cases marketing managers themselves have contributed to this situation by overemphasizing subjective judgment as the basis for their strategies—even though most

marketing executives are at least as fact-oriented as their counterparts in other functions.

- Marketing information needs have usually been satisfied on a piecemeal basis by using data sources and reports really designed for other management purposes, such as financial reporting, production control, and accounting. This “hand-me-down” method sometimes looks like an economical way to solve continuing marketing information problems. Basic information needs go unfulfilled, however, since important aspects of customer identification, cost allocations, and external market conditions cannot be captured unless special provisions are made for doing so.

- EDP techniques have been successfully applied first where dollar savings or operating advantages have been easily recognized; accounting, inventory control, order entry, and production scheduling usually get top priority. The benefits of better information for the marketing function are difficult to quantify in dollars and cents.

- The concepts behind a marketing information system may be misinterpreted by senior executives. At one extreme, they may expect such systems to deliver the answers to the most difficult kinds of questions—the effectiveness of advertising and promotion, for example. At the other extreme, the systems approach may be dismissed as just another sales reporting scheme. Neither concept is correct. As is detailed in this article, many problems can be solved or their current solutions improved upon with better marketing information. Imperfect answers to tough questions are usually better than no answers at all, and sales reporting is only one element of a basic system.

When the pressures to develop effective systems for marketing be-

come great enough, these historical problems succumb to good management judgment and a “marketing information system” begins to sound like the right answer.

The primary objective of a marketing information system is to improve marketing management’s ability to identify profitable sales opportunities, to make the most effective use of sales force personnel, to allocate advertising and sales promotion expenditures efficiently, and to react quickly and correctly to changes in market conditions. The “system” itself can be broadly defined as an organized set of procedures, information-handling systems, and reporting techniques designed to provide the information needed to plan and control marketing activities.

These definitions of objectives and system content are necessarily long because a substantial amount of information is required to manage the marketing function and there are many different kinds of tasks carried out within that function. Regardless of the eventual complexity of a marketing information system, the guiding philosophy is simple: Better information helps capable men do a better job.

A good problem solver usually has the answer sketched out in his mind before he sets to work. The same logic applies to the design of a system to meet the information needs of marketing management—the most important information needs should be anticipated before the first interview is scheduled. The following list is offered as a guide to the kinds of information marketing managers want, whether the products involved are building materials, breadsticks, or bonds:

Customer information

- Where is volume concentrated?
- Who are specific major cus-



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tomers, both present and potential?

- What are their needs for products?
- What are their needs for sales coverage and service?
- What order activity and volume are expected?
- What are the differences in profitability between types and classes of customers?
- Where is performance significantly short of expectations?

Product information

- What are the relative profitabilities of products at the gross margin level? After direct marketing expenses?
- Which elements of variable product cost are influenced by marketing decisions? What is the current cost structure?
- Which products tend to respond most favorably to sales promotion at the wholesale, retail, and consumer levels?
- What are the major advantages and disadvantages of current products in the eyes of consumers, relative to competitive products?
- What factors have the greatest influence on sales volume?
- What is the status of volume and profitability relative to objectives?

Sales force information

- What area and which customers are assigned?
- What call activity is required, both for protection of present volume and development of new business?
- Do current compensation systems motivate the desired mix of salesmen's activity?
- What is current performance relative to objectives?

This list can be expanded, of course, into the detailed questions concerning the "right" strategies for pricing, advertising, sales promotion, and new product development. However, information systems do not make strategic decisions—managers do, by the best use of their experience and the information and

analytical tools available to them.

A basic marketing information system should be designed to provide most or all of the customer/product/sales force information listed above. Focusing on the *decisions* each manager must make as part of his normal job responsibility helps to define what his information requirements are and how his outputs of plans and forecasts can best be integrated into the information system.

Like any other systems development project, the design and installation of a marketing information system must be undertaken with care and organized effort. A good first step is to charter a temporary Task Force, including knowledgeable men from marketing, accounting, and data processing. These individuals, assigned full time for the duration of the project, can provide the broad and intensive effort required to produce a conceptual systems design for all aspects of the system and to participate in the implementation of the design. The Task Force approach helps to avoid the disappointment of sporadic, stop-and-start marketing systems projects.

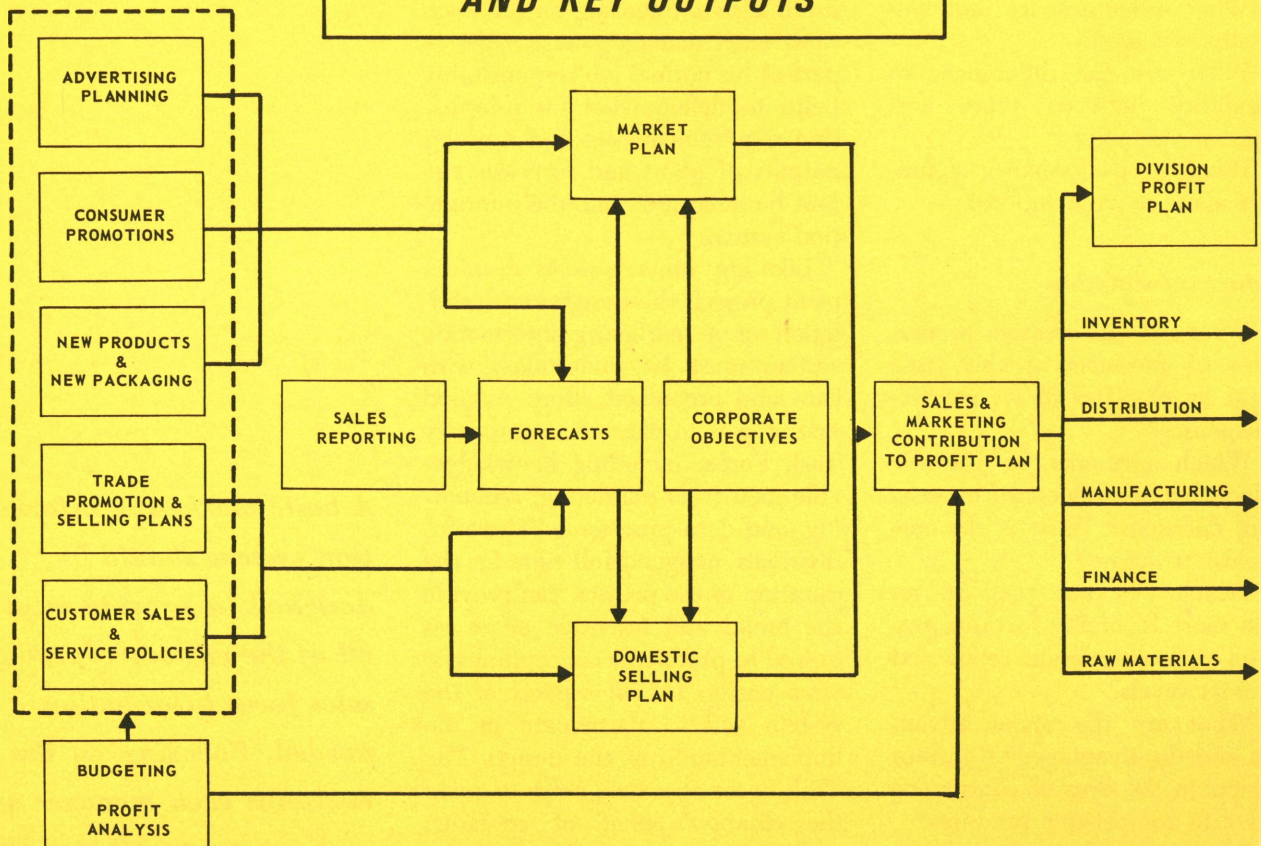
Varied skills required

Each member of the Task Force can make important contributions to the project. The marketing representatives (there could be more than one) should have overall responsibility for the successful completion of the project. The system will be designed, after all, to meet the needs that they identify and interpret. The accounting representative's skills will be needed because accounting systems in particular are likely to require revision in order to accommodate marketing information needs. The data processing man should participate in the planning of changes in data collection and reporting systems, as well as in their implementation. Given the flexibility and capacity of current electronic data processing techniques (if they are required) and the skills available to design

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EXHIBIT I

MARKETING RESPONSIBILITIES AND KEY OUTPUTS



manual systems, the output of the Task Force should be in agreement with user needs.

The users are, of course, marketing managers with a wide variety of responsibilities and outputs, as is illustrated in Exhibit 1, above. These managers are charged with preparing plans covering sales volume, advertising and promotion programs, customer service, and sales force operations. Each of these plans and associated budgets becomes integrated into a marketing plan (product emphasis) and a sales plan (customer or territory emphasis). Other functional areas, shown on the right of the exhibit, rely on the marketing department's outputs as the basis for their own schedules, projections, and objectives.

The varying tasks of marketing executives might suggest separate data files and reporting systems for each kind of planning and monitoring activity. Such a system would

be inefficient, however, and a more economical approach would utilize basic data sources for a variety of purposes.

The interfaces between marketing and other functional areas can present problems if users on either side are forced to work with data formats and definitions that are cumbersome or unfamiliar, simply to avoid a data processing step. For example, marketing managers may be comfortable with "cases" while production scheduling personnel prefer to work in terms of "pounds." A common unit is not necessarily required for both marketing and production as long as the two different units can be defined in terms of one another and procedures installed to maintain compatibility.

As discussed previously, it is not necessary that each marketing manager have a separate information system. The problems (and opportunities) in marketing information systems design arise from the need

to utilize available sources for a wide variety of information requirements. Basic data sources usually consist of the following:

- invoices or other documents recording shipments of specific quantities to specific customers;
- accounting ledgers recording the disposition of funds for specific purposes;
- salesmen's call reports showing the frequency and nature of their activity;
- reports of inventory status, product costs, and project status;
- planning documents showing expected levels of activity for product volume, price levels, sales force activity, marketing expenditures, and projects, including statistical forecasts based on historical data; and
- external data, collected and analyzed for the purpose of establishing priorities among products, customers, and areas.

The list of basic sources has sev-

eral implications for marketing systems design work. First, most of the documents and records are designed for users in other functional areas such as accounting, production, and distribution. If they are to be utilized as part of a marketing information system, it will be necessary to modify the ways in which other users handle and distribute the basic sources. Second, plans are included as a source of information; they are also important outputs of the marketing management effort. Both aspects of the planning process are critical since information flows *within* as well as *between* functions. Finally, models and simulations are not included in the list; they represent "second generation" information systems projects for most companies. Managers can make better use of these sophisticated tools after they have fully explored the benefits of new procedures and reports.

The following example illustrates how basic data can be rearranged to provide marketing management with valuable information.

Case 1. A manufacturer of cosmetics utilized department stores, chain drug stores, and variety and specialty outlets for his channels of distribution. Each of his many products required substantial support in the form of special promotions, cooperative advertising arrangements with retailers, and partially or completely subsidized in-store sales personnel. As part of a larger effort to exercise more control of these expenditures, procedures were installed to identify expenses directly attributable to the different classes of retail outlets, in addition to product-by-product budget control. These procedures required subsidiary ledgers to accumulate marketing and selling expenses by class of trade. Exhibit 2, above, shows one of the resulting trade-class profitability reports.

Customer class profitability data had not been available before, and the new reports enabled management to pinpoint profit improvement opportunities. Exhibit 2 illustrates another key point about mar-

EXHIBIT 2

TRADE CHANNEL PERFORMANCE

COSMETIC COMPANY

	% OF NET SALES	
	DRUG STORES	DEPARTMENT STORES
COST OF GOODS, FREIGHT, COMMISSION, INSURANCE	56%	53%
CO-OP ADVERTISING	3	10
SALESGIRL SALARY SUPPORT	0	21
COMMISSIONS IN OUTLETS	12	11
	-----	-----
	71%	95%
CONTRIBUTION TO PROFIT & OVERHEAD	29%	5%

keting information systems: They provide the tools for decision making, but not the decisions themselves. Based on the new cost and profit data, management could conclude that department store business was just not worth having, or it could conclude that the prestige and exposure afforded by department stores was worth the costs and low profit levels involved. Other alternatives involving changes in promotional programs could also be considered. The key to the decision remains the factual information provided by one element of the marketing information system.

In contrast to other functional areas, marketing operations depend heavily on data originating *outside* the organization. External data from government publications, trade associations, business periodicals, and syndicated services provide marketing managers with indicators of market and product potential. In turn, these measures of potential establish the basis for assigning salesmen to particular geographic areas, industries, or customers; for allocating advertising and promotional dollars to specific buying groups or areas; and for forecasting volume performance.

Case 2. A small manufacturer of copper wire relied on his customers' buying expectations, as reported by his salesmen, to estab-

lish volume forecasts. Actual performance, however, was usually far short of forecast. By utilizing trade and government publications that reported on activity of his customers' customers, he was able to adjust his projections downward to compensate for the tendency of end-users of copper wire to place multiple orders as protection against stock-outs. It was found that these multiple orders were inflating the purchasing expectations of the manufacturer's direct customers.

The Task Force must identify the most appropriate sources for external data and pinpoint why, how, and by whom such information will be used. The availability of external data can have major effects on the organization and reporting of internal data. For example, geographic definitions used internally (such as districts and regions) may require realignment in order to provide direct comparability with external statistics dealing with countries or accepted industry trade area designations. Product groups also may have to be reorganized in order to match the categories found in trade literature or government publications. The tasks of rearranging and reclassifying internal data usually require extensive recoding and wholesale changes in key master files.

Planning is one of the most im-

EXHIBIT 3

SALES PLAN														
SALESMAN <i>Morgan</i>		TERRITORY <i>27</i>				YEAR <i>1971</i>				SEASON <i>Fall</i>				
ACCOUNT CLASS	CALLS TO BE MADE						TOTAL	CUMULATIVE VOLUME OBJECTIVES \$ (000)						TOTAL
	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.		JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.	
KEY/MAJOR	2	1	1	2	1	1	8	12	16	25	29	32	40	40
OTHER ACTIVE	1	1	1	1	1	1	6	1	3	4	6	8	9	9
PROSPECTIVE	1	2	-	-	-	-	3							
TERR. TOTALS														

The Task Force responsible for marketing systems design needs to define the responsibilities, formats, and timing necessary to produce plans for product sales, sales force manpower levels and call frequency, promotion and advertising expenditures, and summary budgets and profit contribution plans for the entire marketing and sales function.

portant elements of sound management—it provides the basis for evaluating performance and exercising control. Unfortunately, planning procedures that should be part of the most basic marketing information systems tend to get pushed aside in the rush to design and install new reporting systems. Planning systems are usually an afterthought even though the simplest report serves little purpose without some predetermined benchmark against which results can be measured.

Case 3. The sales manager in a textile company supervised the activities of some 80 salesmen and district managers. He found that continued hiring of salesmen did not seem to improve overall per-

formance, even though his field managers insisted that more men were required to cover the market. A more formal and effective way to plan sales force activity was adopted, as shown in Exhibit 3, above. The new sales planning procedures called for:

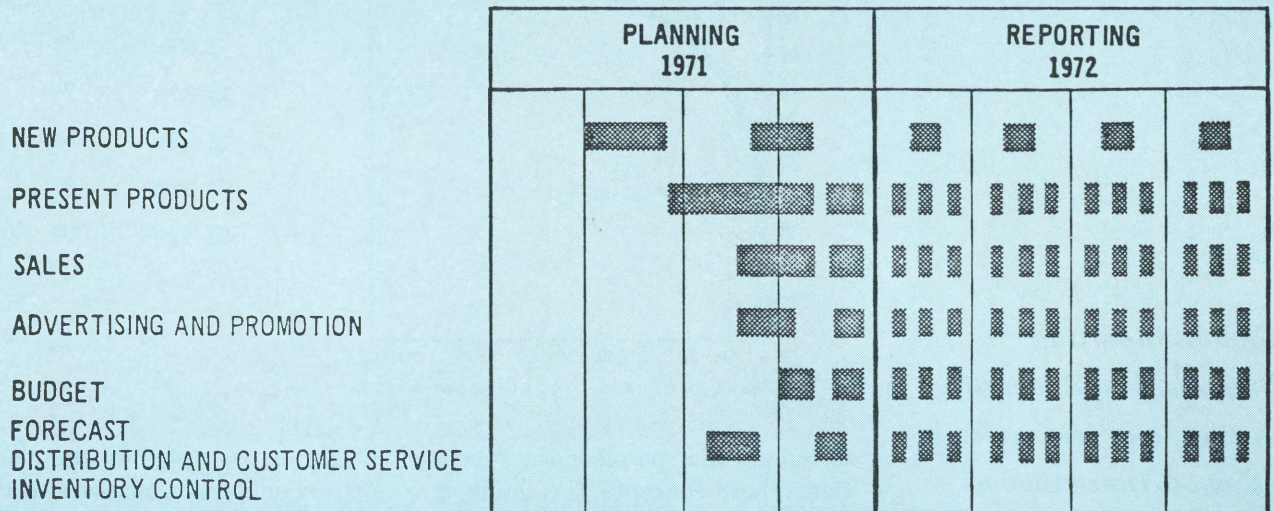
- identifying key customers;
- defining minimum call frequencies by customer class;
- assigning salesmen to territories of approximately equal potential; and
- developing sales objectives for key customers and territories based on potential and past performance.

The sales plan in this example covers a six-month selling season and specifies call frequencies for each major and prospective account,

EXHIBIT 4

PERFORMANCE REPORT							
SALESMAN <i>Jones</i>		TERRITORY <i>14</i>			PERIOD THROUGH <i>March 31, 1971</i>		
KEY/MAJOR	SALES VOLUME			PROFIT INDEX		CALLS	
	PLAN	ACTUAL	LAST YR.	PLAN	ACTUAL	PLAN	ACTUAL
—	7,200	8,100	6,500	100	104	4	4
ALL OTHER							
NEW							
• TOTAL	90,000	100,000	75,000	100	102	210	196
• COMMISSION	XXX			XXX		XXX	XXX
• ACCOUNTS RETAINED		PLAN	ACTUAL				
NEW		40	43				
		8	10				

PLANNING TIME FRAME



as well as cumulative volume objectives. The summation of such territory plans becomes the basis for assigning salesmen and for checking total volume objectives against corporate goals. The sales manager must adjust the total of the individual account objectives downward to reflect probable account losses from season to season.

Controls over sales force activity were facilitated by regular reports like the one shown in Exhibit 4, page 24. The primary measures of performance—volume, call activity, price maintenance, and new account acquisition—are all monitored versus objectives using data from two basic sources, call reports and orders. A profit index is used to give the salesman an indicator of profit contribution without requiring the sales manager to distribute detailed profit margin data throughout his organization.

The Task Force responsible for marketing systems design needs to define the responsibilities, formats, and timing necessary to produce plans for product sales, sales force manpower levels and call frequency, promotion and advertising

expenditures, and summary budgets and profit contribution plans for the entire marketing and sales function. Exhibit 5, above, illustrates the timing of plan preparation and the relationship between planning and reporting. In this example planning begins early in the year with the review and updating of long-range and new product plans. Other basic plans and forecasts are developed throughout the year, some sequentially and others concurrently. A "pause" in the fourth quarter provides for updating statistical forecasts with the most recent data available, prior to the final coordination and approval sessions necessary to establish objectives for the coming year. On the reporting side, progress is monitored against each plan on a monthly or quarterly basis.

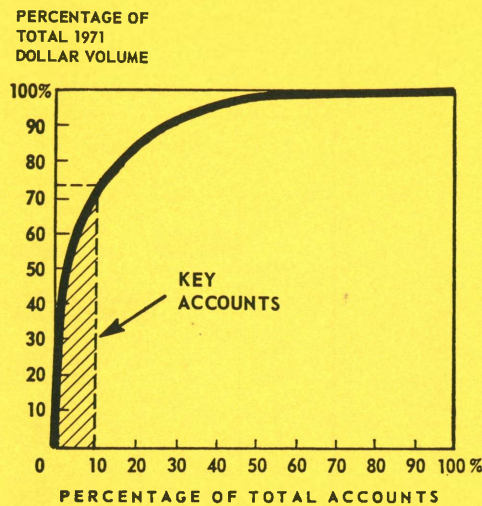
Once a Task Force begins to ask marketing managers what their reporting needs are, requests are likely to come thick and fast. Some managers have useful personal systems that they would like incorporated into any new system. Others will see the project as an opportunity to satisfy their curiosity, but

they have no specific uses in mind for the information they request. These requests must be evaluated in light of the overall marketing approach either in use or contemplated by management. Even with experienced assistance on board to help sort out priorities, the eventual list of needs can be very long. The volume of reports can be staggering when levels of detail and reporting frequencies are considered.

Part of this problem comes about from confusion between data and information. Detailed reports of every individual sales transaction and marketing expenditure provide raw data only and are often unusable due to their bulk. Summaries, groupings, and limited report distribution procedures are required to make reports readable and manageable. Exception reporting techniques would also simplify reporting, but few systems utilize exception reports to more than a minor extent. Managers are reluctant to work with less than complete information at the levels of detail most convenient for them.

Exhibit 6, page 26, illustrates a

DISTRIBUTION OF VOLUME BY ACCOUNT



CUMULATIVE %	
Accounts	Volume
2 (45)	48
10 (210)	74
20 (430)	86
50 (1100)	97
100 (2200)	100

Exception reporting techniques would simplify reporting, but few systems use them to more than a minor extent. More common is a technique that parallels the exception report concept—fairly detailed reports on the small percentage of accounts that contribute the largest volume of business, with considerably less attention given to reports on the very small accounts.

technique that parallels the exception report concept. The graph is based on the volume contribution of each account, arranged largest first. Thus in this example, the top 10 per cent of accounts contribute 74 per cent of total volume. The importance of these accounts warrants frequent, detailed reporting on their activity, although the reports themselves will be relatively "thin"; key accounts are usually less than 20 per cent of the total number of accounts. The small accounts contribute relatively little volume and thus detailed reports of their activity do not add much to a manager's understanding of current market conditions. Some systems are designed to summarize the smallest accounts (perhaps several thousand of them) into a single line for reporting purposes.

The "key account" approach works equally well with product line reporting, especially for those companies that manufacture a large number of product variations that are distinguished by minor differences in size, color, packaging material, or shipping quantity. As the costs of electronic data storage decrease and the time pressures on marketing managers increase, information systems tend to emphasize more storage and less reporting.

Various parts of this article have focused on the reasons for directing effort toward a marketing information system; the basic user needs, data sources, and design techniques for such a system; and some of the potential problems involved. The focus has been on developing a basic system that will reflect the marketing approach and key information needs of marketing management.

The success of any concentrated effort to improve planning and control in the marketing function will depend most heavily, however, on the active support of senior management. "Active support" means defining the scope of the project, assigning qualified personnel on a full-time basis, participating in regular progress report sessions, and recognizing that a broad and detailed examination of needs and alternatives must precede implementation.

Most companies, large and small, have yet to scratch the surface in this critical area. Although designing and installing even a "down-to-earth" marketing information system can involve some hard work, a quick look at the resources allocated to the marketing function should be sufficient incentive to get started.