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In the rush to automate, the marketing and sales function is the next frontier. As everybody knows, over the past decade information systems have been making great inroads in engineering and manufacturing. Automation has cut direct labor to a small fraction of production costs—an average of 8% to 12% in manufacturing companies. Therefore, wringing yet more cost reductions from production labor is increasingly difficult. In such technically advanced industries as computers, semiconductors, airframes, metalworking, and autos, incremental investments are now garnering diminishing returns.

On the other hand, investments in marketing and sales automation systems hold tremendous potential for productivity improvements. Marketing and sales costs average 15% to 35% of total corporate costs (not just production costs). So a focus on marketing and sales provides a welcome lever for boosting productivity. Moreover, the importance of marketing and sales services is growing. According to the U.S.

trade representative and the National Association of Accountants, manufacturers' service activities account for 75% to 85% of all value added.¹ This means that the price a product can command is less a reflection of raw materials and labor than of marketing-related services like selecting appropriate product features, determining the product mix, and ensuring product availability and delivery.

In cases we have reviewed, sales increases arising from advanced marketing and sales information technology have ranged from 10% to more than 30%, and investment returns have often exceeded 100%. These returns may sound like the proverbial free lunch, but they are real.

Because of the complexity of their marketing organizations, large companies are good prospects for what we call marketing and sales productivity (MSP) systems. Tangles of national account management, direct sales, telemarketing, direct mail, literature fulfillment, advertising, customer service, dealers, and distributors all offer opportunities for efficiency improvements. But even small companies that adopt MSP systems can expect impressive results.

Marketing automation investments by a \$7 billion electronics manufacturer and an \$8 million custom printing company each produced a first-year return of more than 100%. The electronics concern installed a sales support system for more than 500 salespeople. Sales rose 33%, sales force productivity

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rose 31%, and sales force attrition dropped 40%. The reduced attrition alone produced savings in recruiting and training costs that paid for the company's \$2.5 million investment in less than 12 months. At the custom printer, an \$80,000 investment in a minicomputer and telemarketing software returned a 25% increase in sales and attained payback in less than 6 months.

Increasing marketing productivity even a small amount can have a great impact on the bottom line. MSP systems have a double punch because they can reduce fixed costs and variable costs. Lower fixed costs mean lower breakeven points. So a given percentage increase in sales produces a correspondingly larger increase in operating profits, as the chart on the next page shows. Meanwhile, lower variable costs mean that every sale contributes more to the bottom line. Indeed, because lower variable costs make the slope of the new contribution curve steeper, the absolute size of the financial advantage continues to grow as sales rise.

Despite the proven worth of this technology, few companies have automated any part of their marketing and sales functions. Even fewer appear to understand the significant strategic benefits that can accrue from marketing and sales automation; most early adopters have automated as a matter of faith rather than as part of a strategy for gaining competitive advantage. A better approach begins with an understanding of what marketing and sales automation can do, how it works, and how it can be implemented.

What the Systems Do

Distinct from general office automation systems, MSP networks are of course specific to marketing and sales. They support more intense product or service differentiation, improved customer service, reduced operating costs, and more streamlined operations. Here are some MSP systems and the tasks for which they are customarily used.

Salesperson productivity tools – Planning and reporting of sales calls, reporting of expenses, entering orders, checking inventory and order status, managing distributors, tracking leads, and managing accounts.

Direct mail and fulfillment – Merging, cleaning, and maintaining mailing lists; subsetting lists (or markets); tracking and forwarding leads; customizing letters, envelopes, and labels; generating “picking lists” for literature packages; and managing literature inventory.

Telemarketing – Merging, cleaning, and maintaining calling lists; subsetting lists (or markets); tracking and forwarding leads; ranking prospects; and prompting scripts (sales, customer service, and support).

Sales and marketing management – Providing auto-

mated sales management reports (sales forecasts, sales activity, forecasts versus actuals, and so on); designing and managing sales territories; and analyzing marketing and sales programs by such criteria as market, territory, product, customer type, price, and channel.

MSP systems can automate the work of a single salesperson, a single marketing activity like direct mail, or a company's entire marketing and sales operation. MSP systems also cut across every type of information technology from single-user PCs to networks of PCs, minicomputers, and mainframes serving thousands of users.

A simple system meets the needs of one fast-growing \$25 million producer of data communications equipment that sells its products through 65 distributors. To cut down on paperwork in handling sales leads, the company adopted a PC-based MSP system. (See the flow chart showing its operation.) Compare this with the networks supporting the more than 5,000 direct salespeople of a major office automation vendor. (See the “map” showing its operation.) This vendor's system combines direct selling, distributor relationships, telemarketing, and direct mail to: generate, qualify, rank-order, distribute, and track sales leads; fill prospects' requests for product and price information; update customer and prospect files; provide sales and technical product support by telephone; and automate order entry and sales reporting.

While the scales of these two networks are obviously vastly different, both of them collect, organize, and update information about every lead generated, every sales task performed, and every customer or prospect closed or terminated. What is less obvious, but no less important, is the basis both systems provide for improving marketing and sales executives' decision making.

Most MSP data bases contain essential information on customers, prospects, products, marketing programs, and marketing channels. Some systems supplement the essentials with industry data (growth rates, entries, exits, and regulatory trends) and data on competitors (products, pricing, sales trends, and market shares). For most businesses, the information incorporates a subtle but important shift from other data bases. Rather than focusing on products (What was the cost to produce each unit? How many units were made, sold, and shipped?), the MSP data base is customer driven.

Whenever marketing or sales activities are performed, the data base captures information that answers questions about customers and their needs.

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Who were the prospects? What were their interests? How were these interests generated? Which sales or marketing personnel performed which tasks? When were the tasks performed? Which follow-up tasks are required and when? Did any sales result? Gradually the data base becomes a rich source of marketing and sales information, enabling management to track marketing activities and measure the results of marketing programs.

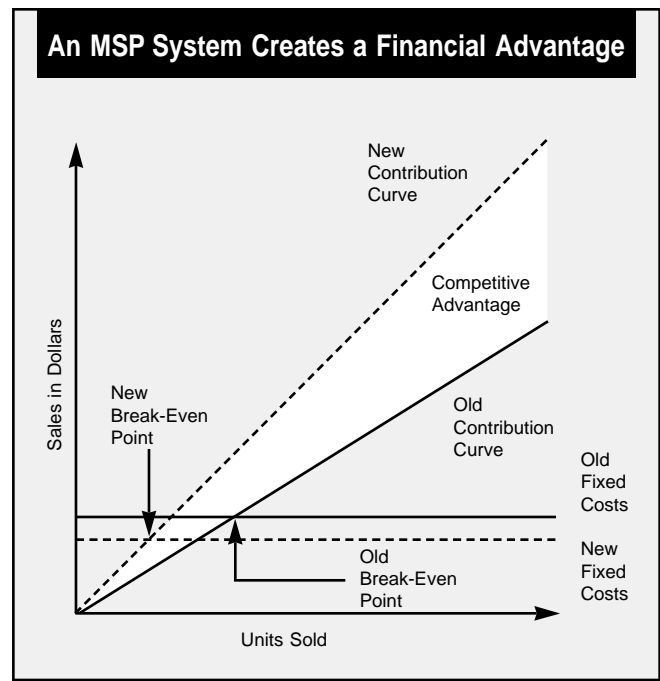
How They Aid Productivity

MSP systems improve productivity in two ways. First, automation of selling and direct marketing support tasks boosts the efficiency of the sales and marketing staff. Second, automating the collection and analysis of marketing information improves the timeliness and quality of marketing and sales executives' decision making.

These networks make direct sales and direct marketing more efficient by automating highly repetitive support tasks, like answering requests for product literature and writing letters, and by reducing the time salespeople spend on nonselling tasks, like scheduling sales calls, compiling sales reports, generating proposals and bids, and entering orders. In 1985, Xerox installed an internally developed MSP system in its southern region. Xerox credits the system with a 10% to 20% gain in sales force productivity and with trimming \$3 million off the company's 1987 marketing support and overhead budget. By automating sales administration and support tasks, Xerox has given its salespeople more time to sell.²

MSP systems for direct marketing also hone the efficiency of customer contacts. For example, a system for the telemarketing function can schedule and dial calls based on the prospect's priority, prompt the telemarketer with a sales script, and automatically update customer files. At Aratex Services, a \$500 million uniform supply company based in Encino, California, telemarketers using the company's old manual system each made 35 to 40 calls per day and about one sale per month. Working with an automated system, each telemarketer now makes 50 or 60 calls daily and lands three or four sales per month.³

Automated networks also elevate the impact of each sales communication. Access to the central data base gives salespeople and direct marketers information to improve the quality of the contact, whether it is by mail, by telephone, or in person. A large financial services concern uses a telemarketing system to handle account inquiries. While responding to a customer's request or query, the telemarketer is prompted by the system to update the customer's profile information and to cross-sell other financial products.



At a division of Vanity Fair that makes women's and children's apparel, salespeople use laptop PCs to access the corporate data base for up-to-date inventory and order status information on 2,000 stock-keeping units. This step has trimmed the company's order cycle from more than two weeks to just three days. It also has made ordering more accurate, resulting in greater customer satisfaction, reduced order cancellations, and a 10% increase in sales.

In companies with many channels, MSP systems upgrade efficiency by using the central data base to track and coordinate all marketing activity. Without this coordination, independent marketing groups often unwittingly pursue conflicting goals. At one multi-billion-dollar office automation company, a direct salesperson had just nailed down a big order by giving a key account the "maximum" price discount. Before the deal was signed, however, the telemarketing group reached this customer and undercut the salesperson's price by 10%. Aside from the damage to its reputation, this vendor lost much of its expected margin on the sale.

This company is now installing an MSP system that will collect and organize information on all marketing programs and activities, including: (1) all customer contacts, whether by mail, phone, direct salesperson, or national account manager; (2) the status of all sales efforts; (3) the origins of all leads; (4) all leads that are being qualified internally and by whom, and all leads that have been forwarded to distributors; (5) all customers who decided to buy; (6) what and when they purchased; and (7) any incentives or promotions that helped close the deal. Coordination

of information through this system is expected to prevent further embarrassments.

A Management Tool

Creation of an MSP data base is an investment in astute management. The data base chronicles every one of a company's marketing and sales activities, from advertising that generates leads to direct mail and telephone qualification of the leads to closing the first sale—all the way through the life of each account. It enables marketing and sales management to relate marketing actions with marketplace results.

At the \$25 million data communications company whose lead-handling system we diagrammed, marketing managers use this system to evaluate media placements on the basis of sales closed. Before this procedure was in place, the company had no way to link information on leads to sales and evaluated media placements solely on the number of leads generated, not closed.

MSP systems also reduce marketing inertia because they streamline the implementation of marketing programs. For example, after designing an in-house system to organize and manage its customer/prospect files, one \$2.5 million industrial manufacturer let 70 manufacturer's agents go and replaced them with in-house direct mail and telemarketing functions. The results? The company raised its accounts by 50% and cut marketing costs from 18% of sales to 13%.

Systems for sales force automation also drive the rapid implementation of less drastic changes in marketing programs. By using telecommunications software and laptop PCs, Du Pont's Remington Arms division has trimmed the time requirement for a national rollout of pricing and promotional programs from two weeks to less than two days.

As marketing managers become accustomed to these systems, they find new uses for them, like analyzing and modeling the buying behavior of prospects and customers. The data base at Excelan, a \$39 million marketer of circuit boards and software in San Jose, California, was essential in identifying a shift in customers' buying behavior from a very technical product focus to an office automation orientation. This discovery has influenced the marketing and sales managers' decisions about hiring and training employees as well as about selecting and developing new target markets.

Account histories also improve management's ability to devise and implement account management policies based on profits. By linking orders, services delivered, and prices paid with the actual costs of lead generation, preselling, closing, distribution, and post-sale support, MSP systems furnish the tools for ana-

lyzing and adjusting the marketing mix. Grede Foundries, a Milwaukee producer of castings for original equipment manufacturers, has used the MSP system to develop a "perceived quality index" that yields a more complete and more accurate measure of customers' reactions than simply tracking returned goods. The system also provides pricing support. By tracking quoted prices and final selling prices, the system gives management a better idea of the price that will win a particular job.⁴

Moreover, automated networks coordinate and direct sales resources—including salespeople, distributors and agents, direct mailers, telemarketers, and manufacturers' representatives—toward the highest priority prospects and customers. Hewlett-Packard's Qualified Lead Tracking System (QUILTS) electronically transmits inquiries to a telemarketing center, which qualifies and ranks them and electronically returns them to H-P headquarters. The company has trimmed the turnaround time for leads from as much as 14 weeks to as little as 48 hours. "Hot" leads are handled even faster; they are telephoned to the field sales force from the telemarketing center.⁵ Similarly, field salespeople in Chevron Chemical's fertilizer division in San Francisco use laptop PCs to access rank-ordered prospect lists in the company's mainframe. At any time, the salespeople have access to leads that are only 24 hours old. Before automation, new prospect lists were printed at headquarters and mailed to the field reps, which took one to two weeks.

Finally, the MSP data base is a management tool for making better use of marketing resources—that is, ensuring that they are employed to further corporate goals rather than the goals of individual marketing or sales groups. While this may sound like something management does without effort, our research shows that optimizing marketing resources is much more easily said than done. In several companies we've looked at, salespeople routinely discard hundreds or even thousands of sales leads, making little or no effort to evaluate or review them. In essence, they are dissipating the resources that generated these leads—budgets for advertising, trade shows, public relations, and other communications media.

In their defense, the salespeople complain that pursuing raw leads is a waste of time. And they are generally right. In one of these companies, salespeople who followed up the raw leads averaged only one or two sales per month, while those who followed their "instincts" averaged more than three. The cost of pursuing the raw leads was at least one lost sale per salesperson per month. To the salespeople, ignoring the leads was common sense. On the other hand, the advertising group, which was evaluated on the number of leads generated, was increasing its budgets to gener-

Economies of Scale?

Small businesses may gain an initial competitive edge from MSP systems because they often can adopt these systems much faster than their big counterparts. With fewer levels of management, small companies are faster on their feet in making decisions. They also tend to have simpler marketing organizations, usually relying on a single-method, single-channel selling system like a small direct sales force.

Large companies face two imposing barriers. First, they generally have both multiple layers of administration and cross-functional decision-making groups. When analyzing, evaluating, and adopting MSP systems, large companies draw in not only marketing and sales but also the accounting, finance, and MIS functions. Second—as a glance at the flow chart and map shows—their marketing organizations customarily rely on complex arrangements of communications methods and selling channels. Accordingly, their MSP systems require great sophistication and customization.

In large companies, marketing and sales automation is a high-stakes decision needing the support of many parties. In a major telecommunications company, the evaluation and selection of an MSP system called for: (1) initial screening presentations by three software vendors; (2) detailed presentations to 15 senior executives; (3) a visit by eight managers to a company with an operating MSP system; and (4) at least nine internal follow-up meetings, including presentations to the vice president of marketing and sales, the general managers of the ten operating companies, the directors of the MIS and MIS-procurement groups, several financial analysts, and several senior salespeople. More than 40 people had a hand in the decision. All this work occurred in a period of more than nine months after the corporate decision to automate marketing and sales.

But the story doesn't end there. Once the company had selected a \$200,000 off-the-shelf system, it spent 18 months and \$250,000 more installing and customizing the software. During the next two years, functional additions to the system and training of the end users added more than \$1 million to the cost.

ate more and more leads. One company has solved this problem by implementing an MSP system that will use telemarketing to qualify leads before sending them to the salespeople. The system will also close the loop, allowing management to evaluate both the company's advertising placements and its sales efforts on the basis of their contributions to revenues and earnings.

Efficiencies gained through task automation and improved marketing management are interdependent and reinforcing. Task automation drives the collection of more complete customer and marketplace infor-

mation, and more informed decision making targets marketing and sales activities where they are most effective. In this way, marketers get a bigger payoff from low-cost, low-impact selling methods, like direct mail and catalogs, as data bases customize the timing and content of mass-marketing campaigns. At the same time, high-cost, high-impact selling methods, like personal selling and national account management, become more efficient as MSP systems perform routine sales support tasks, reduce nonselling time, and synchronize the use of these resources.

When you combine low-cost, low-impact methods with high-cost, high-impact approaches to gain just the right amount of stimulus at just the right time, you can obtain hefty impact at minimum cost. Hewlett-Packard, for one, has taken advantage of this synergy and has discovered the savings made possible by orchestrating direct mail, telemarketing, and personal selling.

How to Get from Here to There

The cases we have reviewed show that companies implementing MSP systems encounter many of the same barriers they would confront adopting any new technology.⁶ From our observation, the process can be streamlined by following six guiding principles.

1. *Clarify the scale of the project as well as potential additions.* An audit of the marketing and sales tasks will yield these categories: those that must be automated now, those that will or may be automated later, and those that will not be automated. This simple exercise will identify marketing and sales activities that must be coordinated and focus the automation effort on getting measurable results without sacrificing flexibility.

It is important to view the project not from the perspective of the marketing groups but from a corporate perspective. With a corporate view, the company can build a "battleship"—a system that takes advantage of information-sharing and task-coordination synergies. Without this strategic perspective, independent marketing groups are more likely to invest in a number of incompatible and wasteful "rowboats." And even a rowboat can cause problems. At a big high-tech manufacturer, eight salespeople had their own PC-based sales force automation system installed. By raising issues of compatibility, data entry, and "file structure definitions," they delayed the start-up of a company wide, 300-salesperson MSP system for more than a year.

2. *Concentrate on tasks that can add value for the customer.* As in other corporate activities, marketers can get competitive advantage in two ways: by lowering costs and by enhancing the differentiation of the product or service offering. At the custom printer we referred to, streamlined job-costing and order-entry processes enable customers to price and place orders with one phone call. The “real-time” order-entry and order-tracking capabilities of the Vanity Fair unit’s salespeople have upgraded its customer service. In both cases, customers benefit from better service, and sellers benefit from lower costs.

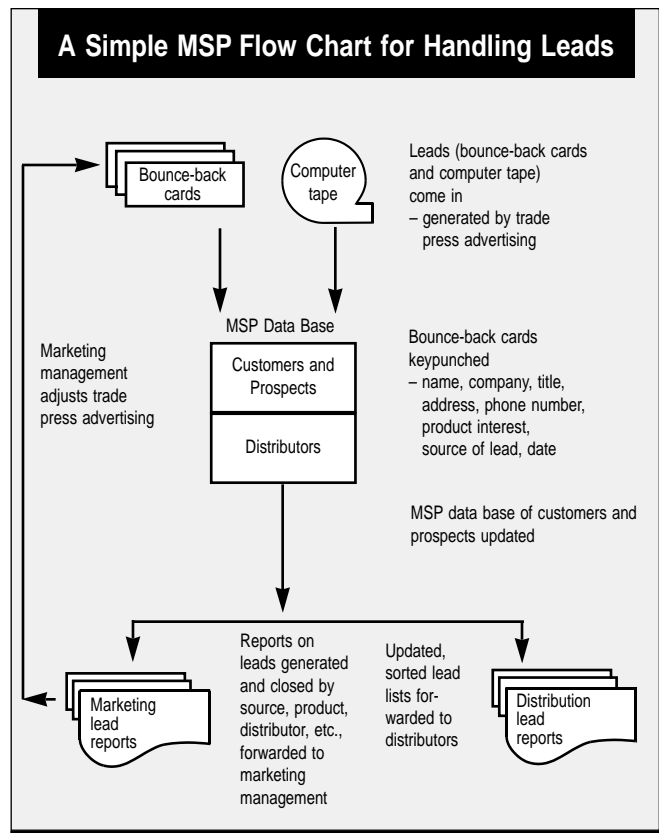
Other companies add value by using automation to improve the exchange of information during sales calls. The 22 salespeople in Hercules’s Fragrance and Food Ingredient Group use their laptop PCs and a computer program called Flavor Briefs to consult with prospects on applications. Otherwise, Hercules salespeople would be unable to provide such detailed advice on their product line’s many applications. The system saves the customer and the salesperson time and also furnishes a valuable service.

3. *In the budget process, account for hidden costs and intangible benefits.* Budgeting for an MSP system entails overcoming three principal obstacles: high perceived financial risk, poorly understood benefits, and biased capital budgeting systems.

First, automating marketing and sales is costly. A typical hardware and software outlay per salesperson ranges from \$4,000 to \$7,000—so automating the tasks of 100 field salespeople can cost between \$400,000 and \$700,000. In addition, if the MSP system must communicate with other corporate information systems, it is likely to require the development of specialized minicomputer, mainframe, or communications networking software.

Department-level telemarketing or direct mail systems range in price from \$30,000 to more than \$100,000. Sales or marketing management software may up the price another \$30,000 to \$100,000. Of course, the cost of tying all these pieces together depends on how many pieces there are, where they are located, and how they communicate. It would not be unusual for a company with 500 salespeople as well as telemarketing, fulfillment, and direct mail operations to spend between \$3 million and \$5 million on integrated MSP hardware and software.

But the budget process must anticipate and account for hidden costs too. In a number of cases we studied, in-house information was so scattered and communications equipment so incompatible that simply preparing a customer list required a major effort. Other hidden costs include system customization, expert consulting, and end-user training. Depending on the circumstances, these services can double or



even triple the overall cost.

Because malfunctioning of an automated marketing system can threaten a business’s revenue stream, it’s advisable to budget for the cost of two systems—automated and manual—until the network has proved out. Naturally, all these expenses ratchet up the perceived financial risk of MSP automation.

On the other side of the equation, estimating the full financial benefit of an MSP system is extremely difficult. Tangible productivity gains, like increases in selling time and cost reductions on telephone campaigns, can be gauged fairly accurately. But intangible productivity gains, like better marketing decision making, more responsive customer service, and deeper understanding of customers, are much more difficult to track.

Still, it would be a mistake to ignore them, especially since capital budgeting processes are often biased against intangible productivity investments. Furthermore, few marketing managers and even fewer sales managers know much about their companies’ capital budgeting processes—especially when huge investments in information technology are at stake. Senior executives have to take care that the process remains flexible enough to give MSP automation a reasonable evaluation.

An MSP system is a strategic investment for the whole corporation. But unlike other assets that are con-

sumed over time, the more it is used, the more valuable it becomes. So it should be viewed as a long-term asset, not as the expense of a functional group. And, needless to say, senior management must match the scale of the company's investment to the scale of the project. Otherwise, fragmented marketing budgets will foster fragmented automation. The result, as noted above, may be many MSP rowboats with little or no coordination or compatibility.

4. *Make any tests realistic.* Because launching a full-scale network can be tremendously risky, most companies hedge their bets first by piloting automation on small portions of their marketing operations. A single function, like telemarketing or personal selling, is usually the test site. If this pilot is successful, the company adds more functions.

This ramp-up strategy, however, has serious drawbacks. It permits no insight into the complexity of coordinating multiple marketing and sales activities. Though single-function solutions may yield gratifying returns, evidence of their true worth may also stay hidden until they are combined into a system that demonstrates synergy. Consequently, estimates of financial returns based on single-function pilots may be negatively biased.

Finally, critical performance limitations may remain hidden unless the complexity and scale of the test parallel the system's actual use. One big manufacturer's telemarketing pilot ran flawlessly, providing the telemarketers with a steady stream of calls and instant access to customer profiles and scripts. But eventual integration of telemarketing with other MSP networks seriously degraded the performance of the overall system. Every time the telemarketers asked for new information during a call, they were confronted by blank computer screens for more than 40 seconds. As the business manager put it, "That's a long time to talk about baseball."

A company with a multichannel, multimethod marketing system is better off with a pilot plan that automates a multifunctional subset of the marketing organization. In this type of pilot, an integrated system, encompassing all marketing and sales functions, is installed for a single division, region, product line, or customer group. This experience is likely to be more realistic than the single-function approach.

5. *Pinpoint the roles and responsibilities of those selecting, designing, and operating the system.* Even standard MSP systems, though they may be touted as off-the-shelf products, require extensive customization. This necessity complicates the selection or design process in a number of ways.

□ The process requires expertise in technology (computers, data communications, and software) as well as in marketing and sales.

□ Naturally, a company's existing MIS systems are

likely to constrain the choice (or development) of an MSP system.

□ Marketing professionals and MIS professionals rarely speak a common language, and they often approach marketing automation projects with different perspectives. While marketing thinks about functionality (e.g., Will the system help perform marketing and sales tasks?), MIS people often focus on technical considerations (e.g., Will the system interact with other corporate information systems? Who is responsible for ensuring the integrity of corporate data bases?).

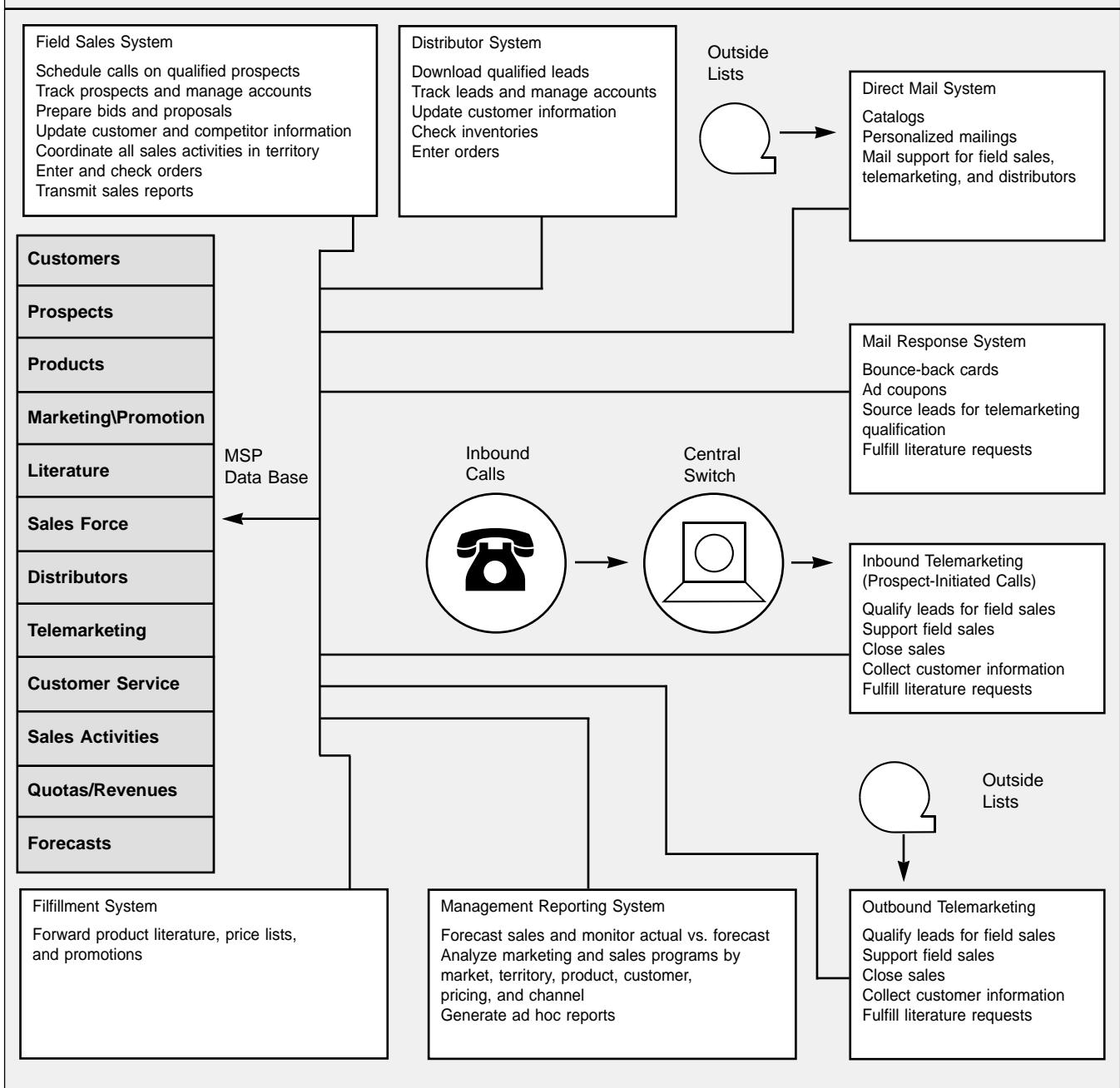
It's senior management's job to make sure that the MIS and marketing professionals talk to each other and work together. It's not easy. An MIS group may automate its conception of marketing and sales only to discover later that the automated system does not actually work. Everybody knows of cases in which the MIS department loads the sales force down with reams of report forms to complete and return to headquarters. Of course, much of the requested information is irrelevant from the salespeople's standpoint, and the report forms end up in the same round file as the old lead cards.

During the long, complex process of designing and implementing a major MSP system, responsibilities sometimes become diffuse and project accountability gets blurred. In one case we know of, poorly defined responsibilities for MIS and marketing have caused big headaches. Bickering over cost allocations and data-base controls has made the company's \$1 million MSP system useless. The MIS group will not allow marketing to access the corporation's data bases. But the marketing group's computer budget is too low to keep the marketing data base up-to-date. (Not surprisingly, headquarters viewed the entire MSP development process as a marketing expense instead of a corporate investment.)

6. *Modify the technology and the organization to support the system.* As in every instance in which management implements new technology, it must pay close attention to the attitudes of people in the organization. In successful MSP implementations that we have seen, both the organization and the MSP system have gone through an interactive process of change—altering the technology to fit the marketing and sales environment, then altering the environment to fit the technology.

To be useful, for example, the MSP data base obviously must contain accurate, up-to-date information. Because obtaining this information requires salespeople to use the system and to support the information collection process, they have to become adept at using the new technology. Problems can result, however, if the end-users lack computer skills or if

Map of an Integrated MSP System for a Major Office Automation Company



they are uninterested in using the system.

Training can overcome skill problems (if enough money is budgeted and enough time set aside), but lack of interest is harder to deal with. Experience suggests that the best way to sell the sales staff on the network is to demonstrate that it can give every user something back. That is, by helping salespeople or telemarketers work more productively, MSP systems can boost not only the company's sales but also *their* sales and *their* compensation.

For many companies, postponement of automation of the marketing function may seem to be a good way of skirting a difficult decision, but this do-nothing posture condemns the organization to being a marketing laggard. It may also be a costly mistake. Early adopters of MSP systems have gained superior competitive advantage. Compared with their "manual" competitors, they perform selling tasks with greater economy and impact. They know their customers better and can tailor their sales communications to

supply just the right amount of sales stimulus at just the right time. Overall, they craft and control their marketing programs more intelligently. In the long run, the competitive barriers they establish may change the nature of marketing in their industries.

In view of this impressive record, some marketers about to embark on automation may embrace unreal-

istically high expectations. But MSP systems cannot work miracles. They will not offset a poorly conceived or poorly executed marketing strategy. They will not compensate for an inferior sales force, and they will not sell inferior products. Complex MSP systems are difficult to implement, and the associated returns, like any other lasting accomplishment, have to be earned.

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