

HOW COMPANIES ARE PREPARING FOR CHANGE

With a time of rapid technological advancements occurring in the computer industry, we find companies are now deciding how to take advantage of those innovations. In brief, they are preparing for change. Last April we described one approach that companies are taking—becoming involved with university research projects. And last September we discussed another approach—using videotape training courses. This month we look at two more ways companies are preparing for change—hiring consultants and participating in user roundtables.

Fiat Auto S.p.A. is one of several divisions of Fiat Corporation. It is Italy's largest automobile manufacturer, producing several types of cars (Fiat, Lancia, Ferrari, and Autobianchi) as well as farm equipment and other motor vehicles for sale world-wide. It has headquarters in Torino, Italy, and employs some 150,000 people around the world.

We are interested here in three departments—organization, planning, and marketing and development—and their move toward automating their offices.

The organization department develops and maintains all functional procedures for Fiat, plus all job descriptions and coding rules for all of their motor vehicle parts. The planning department monitors and supports the corporate plans developed by the corporate executive committee. And the marketing and development depart-

ment deals with sales, consumer relations, government regulations, and such.

In early 1978, several executives in these departments decided to initiate a project to get them moving toward a more automated office environment. They assigned two people from the organization department to be on the team—an executive and an organization analyst. And they called in two consultants from another Fiat operation, general systems. These consultants felt that bringing in an outside consulting firm with experience in the automated office field would be most helpful. So they contracted with the people at Office of the Future, Inc., in Guttenberg, New Jersey.

Why did these managers in Fiat bring in consultants? Well, we were told, they wanted some outside opinions on the amount and types of 'upheaval' such moves toward the automated office might

bring. They also sought the procedural experience of these consultants in identifying potential applications and initiating some projects that would involve as little upheaval as possible. And finally, they wanted objective advice on what technologies to use so they would not find, in a year or so, that they owned obsolete equipment or had selected poor cost-effective projects. They did not expect to find such objectivity from vendors. So these managers often hire consultants to get them started in a new field quickly, we were told.

The actual team consisted of five people—two Fiat people, two consultants from general systems and one outside consultant. The manager of the organization department was the study sponsor. The team was given the following tasks: (1) to identify opportunities for automating office functions within these three departments, (2) to identify evolutionary solutions to these applications, and (3) to recommend some systems to implement. These systems must use available, off-the-shelf equipment that would not need to be programmed. The department heads wanted to improve their procedures without having to contract for data processing support (either from within Fiat or from an outside source).

The team's work divided into two phases: a general feasibility study and a pilot system design phase.

The feasibility study. To begin, the team followed the study approach developed and used by the outside consulting firm, Office of the Future, Inc. The team studied the three departments and the responsibilities of the executives within them. All of the executives and their assistants (29 in all) were interviewed individually for about one and a half hours each. They were asked questions dealing with four topics: (1) What major improvements would you like to see at Fiat? (2) What benefits would you expect from these changes? (3) What are your tasks and what

assets do you bring to your job? And (4) how do you get the information needed to do your job? Also, the outside consultant studied how four of the executives communicated with others, in some depth, by recording their work patterns for several days each.

From this work, the team was able to identify 22 improvement opportunities. Each one was then described by the function it affected and placed on a spectrum of trivial-to-difficult to implement. The team also did an input-output analysis of executive information to show where department information came from, where it went, how often it was needed, and such.

From this analysis the team classified the 22 opportunities into three classes: (1) those that have very local usefulness, low risk, and yet would provide demonstrable short-term benefits; (2) those that have wider application, are riskier to implement, and provide more benefits; and (3) those that are logical extensions of the second level applications—they have mass application, they are riskier to implement (and thus require an evolutionary approach), and they have the greatest potential long-term benefits.

The feasibility study took about six weeks to complete. It ended with a presentation to the sponsor and a report detailing the findings. The report contained a review of the steps taken, the opportunities uncovered, and the recommendations for some initial pilot projects. It also contained a review of the technologies of the field, some current problems in the field, and some future projections. So with this report the department managers could see some possible short-term and long-term projects and their possible 'upheaval' effects on the company.

The pilot system design phase. The manager of the organization department (the study sponsor), together with the other department heads, chose three pilot projects to start on. These managers again stressed that the systems were to use equipment

not requiring programming support. And they also directed the team to prepare training and documentation materials so that the departments could implement the systems on their own.

The project team for this phase differed slightly. It consisted of the same two people from Fiat, and one of the general systems consultants—plus an additional analyst from that department.

For the organization department, the team designed an integrated word processing and information retrieval system (using microfilm) to keep track of the some 100,000 documents used in the department. All of the documents were put on microfilm, and the index was put on floppy disks. An Olivetti TES 501 word processing system is used to locate documents (filed under several index keys), prepare new documents for microfilming, and index all incoming paper correspondence to department management. No programming is need to use the system for these purposes; however, the Olivetti system is programmable, so it can be programmed in the future to perform other functions.

For the planning department a similar word processing and microfilm system was designed. This system is used to accelerate the creation and improve the quality of documents used by the corporate executive planning committee. The agenda for the weekly meetings is now kept on the system, as are the numerous supporting documents.

For the marketing department, the team designed a third word processing and microfilm system, for the consumer relations group. It is for use in keeping track of pertinent government regulations that might affect Fiat.

In addition to designing these three systems, the team developed a manual for department executives to use in evaluating future opportunities. The designs and manual were presented to the sponsor after about three months of work. The team recommended that the two people from

the organization department form an automated office group to oversee the implementation of these three projects and then move on to other pilot projects.

The three projects have been implemented; however, they required some changes in procedures that Fiat has found are slower to implement than expected. While they work on these procedural problems, the automated office project team is moving ahead with designing other pilot projects. All in all, management is happy with their approach to using consultants to introduce technological changes.

Managing change

Last April we talked about preparing for coming changes. The changes we had in mind relate to introducing some of the new technologies—micro-computers, advanced tele-communications, databases, interactive systems, graphics, etc. We asked: Where can companies go to find out about these technologies and the feasibility of their use? The source we discussed in April was university research programs. And we listed some other possible sources of information: seminars, user groups, professional societies, and in-house study teams.

Since that time, we have been looking into the ways that companies are using these other sources of information. In September we looked at another way of introducing advanced technology—the use of audio visual training courses.

Now, in this and next month's reports, we return to the subject of preparing for coming changes. This month, in response to some subscribers' suggestions, we discuss how consultants and user roundtables can help. Next month we explore consultant research programs and multi-disciplinary research organizations.

To begin, let's take another look at change and its implications.

The new computer-related advancements present opportunities for increasing employee productivity, for better manag-

ing corporate information, and for improving organizational efficiency. The problem, of course, is to introduce these new systems with the least upheaval possible. So we think it best to view the process as one of introducing change. And success requires managing this change.

Managing change is a very difficult task. That is why we are seeing so many companies creeping toward the automated office, toward distributed database systems, and toward managerial work-stations. They are doing pilot studies, comparing notes with other companies, reading every piece of literature they can find, etc. One fear is implementing systems that will not be used by the people they are designed for. Since all of these new advancements proclaim that end user acceptance is the goal, then there are bound to be reactions, both acceptance and resistance. Possible user resistance to change *must* be considered.

John Kotter and Leonard Schlesinger (Reference 1) recommend managing change by knowing how to deal with resistance. We will review their points here, because we think their approach should be considered at the beginning of all change projects.

Kotter and Schlesinger suggest that companies systematically select a strategy—a combination of approaches, actually—to better implement organizational change. They point out that while everyone knows a change project will run into some resistance, few change initiators systematically assess who might resist and why.

Why do people resist change?

Kotter and Schlesinger describe the four most common reasons why people resist change.

Self-interest. The first reason is self-interest. People think they will lose something of value, possibly reducing their decision-making responsibilities, or losing their privileged status. Often this fear shows up as political resistance and power struggles,

because these employees view the change as an unfair violation of their 'contracts' with the organization.

Misunderstanding. Second, employees may resist change because of misunderstanding. They do not understand the implications of the change. The authors say this resistance is most often caused by lack of trust between the change initiators and the employees. This is a common reason for resistance, the authors say, and it is one that most initiators do not expect. They think change will only be resisted if it will not be good for the employees.

Different assessments. A third type of resistance results from different assessments. One group may view the change as benefitting the company (based on its knowledge) while another group may not agree (based on its knowledge). Often change initiators *assume* that they have all of the relevant facts and that those to be affected have these same facts. Possibly neither assumption is correct. And the differences in actual knowledge may lead to different analyses and different conclusions—hence resistance.

Low tolerance for change. Last, some people resist change because they have a low tolerance for change. Even changes that will benefit them are resisted, because they are fearful that they will not be able to cope with the new environment. Emotionally they cannot make the transition.

Dealing with resistance

Obviously, to deal effectively with resistance, change initiators need to understand who will resist and why. Only then can they use the correct approaches that will successfully minimize or overcome the resistance. Kotter and Schlesinger point out that change initiators underestimate the variety of reasons for resistance. And they also underestimate the variety of ways they can positively influence the resisters.

The authors describe six methods for dealing with resistance. They place these

methods on a continuum, beginning with those that have an evolving plan of action, take the longest to use, and require the most involvement of others. These methods are designed to *minimize* resistance. They are the most desirable, but they are not always practical options. In such cases, the initiators must move along the continuum to less desirable methods: those designed to *overcome* resistance. Here are their methods for dealing with resistance:

Education and communication is the authors' first method. Educate employees beforehand, they say. This helps them see the logic and need for the change. An education and communication program is important, but it must be based on a good relationship between the two parties, or else the resisters will not believe what they hear. This approach takes a lot of time and effort, but it is particularly useful when the initiators need the resisters' help in implementing the change.

Involvement and participation is the second method. Initiators can involve potential resisters in the design and introduction of the change. The authors note that considerable research has shown that, in general, participation leads to commitment, not merely compliance. On the negative side, unless involvement is well managed, a poor solution may result from the participative approach. It is also a very time consuming approach.

Support is a third way to deal with resistance. Change initiators can influence resistance by being supportive: by providing training for new skills, by simply listening to employee complaints, and by even giving employees time off after a demanding period. This technique is most effective when fear and anxiety are the bases for the resistance, the authors say. Again, this approach can be time consuming and expensive; and even then it may fail.

Negotiation and agreement is a fourth way to deal with resistance. Initiators can

offer incentives to potential resisters, such as negotiating agreements ahead of time on what the resisters will receive in return for their support. This approach is particularly useful when some employees are definitely going to lose out because of the change, and yet their power to resist is significant.

Manipulation is the fifth method of dealing with resistance. Here the initiators exert their influence, even selectively manipulate information and events. This alternative can backfire, of course, if the employees feel they have been tricked into not resisting. But manipulative approaches may be necessary when other tactics are not feasible—say, when the initiators do not have enough time to educate or get participation or enough power to negotiate.

Coercion is the authors' final method of dealing with resistance; that is, forcing people to accept change by somehow threatening them. As with manipulation, this is a risky approach, because, generally, people resist forced change. This is the extreme method, for overcoming change rather than minimizing it. If strategic choice is possible, it is wisest to try to minimize resistance, the authors say. Simply overcoming resistance has just too many negative side effects.

Kotter and Schlesinger point out that successful change is a combination of these methods, based on a realistic appraisal of each situation and an eye toward each method's strengths and limitations.

Choosing a strategy

When approaching change, the authors say that most change initiators make choices regarding the speed of the effort, the amount of pre-planning required, the amount of involvement of others needed, and the relative emphasis they will give to these different approaches. For success, these choices and the change approaches must mesh. For example, a strategy that calls for a slow change process can use the

more time-consuming approaches to *minimize* resistance. A plan for rapid implementation, however, must rely on faster approaches, those aimed at *overcoming* resistance.

The authors suggest four ways to appraise the situation to determine which strategy to take: (1) Evaluate the amount of resistance. The more resistance expected, the more difficult it will be to simply overcome it. So initiators must use the more time consuming methods to minimize the resistance. (2) Evaluate the positions of the resisters. If they have more power than the initiators, then the approaches that overcome resistance will be required. (3) Locate the needed information—that is, find the people whose knowledge and skills will be needed to design and implement the change. The more knowledge and skill needed from others, the more education, communication and involvement will be necessary to draw out their support and involvement. So the effort will take longer. And (4) evaluate the stakes involved. The greater the short run need for the change, the more likely the methods to overcome resistance must be used, because they are faster.

The lesson here is: If companies wish to introduce new end user systems, the least upheaval will result from minimizing resistance, by taking the more time consuming and participatory approaches. This, in turn, requires that the strategies for coping with resistance be considered in the initial planning stages. We suspect that few companies are preparing for resistance to change as early in new projects as Kotter and Schlesinger would recommend.

Stages of change

With these factors for managing change in mind, let's move on to considering the change life cycle. We talked with Dr. James Carlisle, of Office of the Future, Inc. in Guttenberg, New Jersey, about his experiences in helping companies implement change. He specializes in helping compa-

nies move toward more automated office environments. He pointed out that when introducing new systems, there are really two cycles going on. One is the typical life cycle from the implementors' (or initiators') viewpoint. Simultaneously, there is the reaction life cycle—the users' viewpoint. This life cycle determines when and if users will accept the changes.

The implementors' viewpoint

In preparing to implement change, a project team is often chosen to guide the work. One can view change projects as going through eight stages: awareness, narrowing, plus the typical system development stages—system analysis, system design, coding, testing, installation, and maintenance. In this report we will concentrate on the first two stages, awareness and narrowing, since these are where most users are today in preparing for the major system changes we mentioned earlier.

Awareness. The initial stage of change is awareness, finding out what the technology is all about. This is the information-gathering stage. Typically, project teams determine the state of the art by attending conferences, reading literature, and contacting other user companies. In this stage, the objective is to broaden the implementors' outlook as much as possible, to get them thinking about what is possible and what could be done.

Narrowing. Once the team has learned as much as it can about the subject, then the potential opportunities must be narrowed down and tailored to the company. The basic method of narrowing is to identify the high payoff areas within the company, where use of the new technology can really impact the organization's performance.

The users' viewpoint

As change is introduced, or even suggested, users go through several changes in attitudes. The following stages are sug-

gested by Carlisle, based on what he has seen in a number of companies.

Self analysis. In the first stage, users implicitly or explicitly ask: How is this change going to affect me? Do I really want to change? How should I react to this change?

This is the stage where all of the resistance and acceptance factors that Kotter and Schlesinger describe are found. So it is at this initial introduction to change that their ideas on minimizing resistance need to be considered. Users who decide not to accept the change apparently do not progress beyond this point. So this first stage is a real hurdle, possibly the crucial one.

Unfreezing. In the second stage the users say, in effect, "I possibly am interested in changing; I want to learn more." At this point, the users have not accepted the change, but they are interested and intrigued enough to participate in, say, designing or using a pilot project. Carlisle says that this is the best stage at which to introduce the change, because the users are willing to experiment. If the users have not reached this stage when the new system is presented to them, then they will most likely resist it rather than accept it openly, he says.

Change. In this stage, actual use of the new system and procedures occurs. The users experiment with a pilot project or they begin actual production work using the system. But they have not, as yet, accepted the change. They are simply trying it out to see if, in their own minds, it is better.

Refreezing. In the fourth stage, the users accept the change and begin to think of it as 'the way to do things'. So the new order has replaced the old, and the new order becomes institutionalized.

Reassess refreezing. Now that the change has occurred, been accepted, and becomes the new procedure, the users begin to re-evaluate the change. Does it really attack

the original problem? What enhancements would make it better and more effective? Where should we go from here? And thus the cycle for future changes begins again.

These are two views of change, from the implementors and from the users. Concentrating on the first two implementation stages—awareness and narrowing—we ask: Where can companies go to get outside help and guidance? In this issue we describe two sources: consultants and user roundtables. First, we look at hiring a consultant.

Hiring a consultant

The term 'consultant' has many meanings. As we use it here, a consultant is an outside person you contract with to perform a specific task for you. A management consultant, for instance, might specialize in helping companies to create and implement long range plans. In data processing, such a plan might involve moving to a distributed database system over the next five years.

Most often consultants are hired when a company runs into a problem—to bring a failing project back to life, to put a late project back on some sort of schedule, etc. But Harvey Poppel of Booz, Allen and Hamilton, a leading management consulting firm, says that this problem-oriented approach is not the best way to use consultants. He recommends considering hiring consultants at the very outset of a project, not after the project is in trouble. This does not mean you hire a consultant for every project. But it does mean that you assess the talents needed beforehand and fill in the gaps.

Consultants offer three types of skills—according to Poppel—technical, procedural and communication skills.

Consultants' technical skills. In their field of expertise, consultants can have considerable technical skills. Their knowledge comes from their past work and from their keeping in touch with state-of-the-art projects. It would be very costly to buy this

talent on a year-round, full-time basis. But for a specific project, it might be well worth the price. Poppel points out that a benefit of large consulting firms is that they have a pool of several levels of numerous technical skills to draw from.

So filling in a technical knowledge gap for a specific project is one service consultants can provide.

Consultants' procedural skills. Most consultants have a methodology that they use to manage projects. Their procedural expertise can help keep a project on course and may even speed it up. Very often the consultant has performed a similar project before. So he or she is likely to know the right questions to ask, several possible alternatives, and some pitfalls to avoid.

When most organizations hire consultants, they are very conscious of the daily cost of having these people on site. So companies tend to hurry these projects along. Thus, consultants can act as catalysts and keep a project's momentum up. Also, consultants can bring a project to completion sooner, because management wants to see an end product from the consulting contract.

So hiring consultants for their project management skills is another use of this outside resource.

Consultants' communication skills. Consultants may bring with them a 'mystique' that no company employee has. This mystique gives credence to things the consultant says and proposes. Poppel recommends using this authoritative presence on projects, where necessary. For example, often consultants are more effective than employees at communicating with top management and users, especially on sensitive issues. They can be used to present a project team's conclusions to others, thus adding their authority and approval.

So using consultants to communicate project work to others is another use of their skills.

Having considered some reasons for using consultants, we need to give some warnings about problems you might encounter when hiring consultants. We have singled out the two major problems: people problems and conflict-of-interest problems.

Problems you can have

Regardless of the consulting firm you choose, the quality of the job they do for you depends on the people assigned to work on your project. These are the people who actually do the work, not the others who are supervising or reviewing the work. The old adage applies here: Quality can not be inspected into a product.

The typical consulting team from a medium or large size consulting firm generally has one senior person who works part time on several projects, reviewing and possibly guiding the work. Then there is the project supervisor, who generally manages more than one project at a time. Finally, there are the people who actually do the work. They are often the junior members of the firm. It is here that the quality of the work is determined. And this can lead to people problems.

People problems. Why might you not get the people you expect? There are several possible reasons. One is turnover; a key consultant on your job may simply leave the consulting firm before or even during your project.

Or the firm may use one person as a 'come on'—someone who shines, communicates well, and attracts contracts. Then, after the contract is signed, and the project is rolling along, the firm may pull that consultant out to work on attracting other contracts. Such people would probably only review your project, leaving the real work to others.

So if the consulting firm says that one consultant, who has had much experience with your type of project, will do your work, but another person shows up, demand an explanation. If you believe you

are getting a run-around, you might look for another firm. It is a good idea to have the names of key consultants, who will actually do the work, included in your contract.

When hiring consultants from another country, the main problem is communication, due to subtleties in languages and customs, the people at Booz, Allen and Hamilton told us. The best way to overcome the problem is to add someone to the team who speaks both languages fluently and who knows the local business habits.

To avoid these people problems as much as possible, we suggest talking to several of the 'working' consultants in candidate firms—the ones the firms say would be assigned to your job—rather than just talking to the more polished, more senior reviewing and supervising consultants, if this can be arranged. If you are not happy with any of the working level consultants from a firm, perhaps you should not consider hiring that firm.

During this selection process, it would also be wise to find out the consulting firm's policies about working for competitors of your firm. You may uncover some conflicts of interest.

Conflict of interest problems. Two conflict-of-interest problems come to mind when contracting for consultants. First is the question of outside influences. Does the consulting firm have ties to any vendors? Obviously, consulting firms that make commissions from hardware or software product sales can not make objective evaluations and choices.

But we would go even further. We would ask: Do the consultants own any stock in any vendor companies they might recommend? This ownership might not seem to exert much outside influence, but we think it best to deal with consultants that purposely avoid *any* such outside influences.

The other conflict-of-interest question is: Where might the consultants on your

project work next—for a competitor perhaps? We think consulting firms should have stated policies that prohibit their consultants from working for competing companies within a specific time frame, say one year. Consulting firms with employees expert in specific industries may argue that this type of policy is impractical. But for protecting your proprietary information and procedures, we suggest making your desires known on this point.

Having stated some pros and cons of consultants, here are some guidelines for making good use of consultants.

Using consultants better

Harvey Poppel gave us a number of suggestions on how to get the most use out of the consultants you hire. He pointed out that all of these involve proper preparation and participation on your part.

Do preliminary work first. Know what work you want the consultants to do before you hire them. Define the problem, delineate its scope, and estimate its time and cost. These preparations are essential to getting a useful final product from a consultant.

But, Poppel warns, be flexible on the scope of the project. You may have narrowed it down too much. The consultant may want to broaden it some to ensure that you consider interfaces to other company work.

When planning how much time and money to put toward the project, be realistic. Do not expect the project to require less time and less money simply because a consultant is on the team. Such surprises may occur, but do not count on them.

And finally, define the consultant's work as a full time effort. Do not sign up for one-day-a-month visits. Consultants can not get to know your company well enough to help you much with this arrangement.

Put aside your own resources. In these preparations, plan how much time and ef-

fort your people will contribute to the project. You can not farm out an entire job and later expect the results to be carried forth if employees have not been involved in the decision making.

Pick the people, not the price. As we have said, choosing the proper working consultants is the key to successful use. Talk to all of the people who will work on your project beforehand. And check the firm's policies for possible conflicts of interest.

Get initiators and users to agree. Sometimes a user group wants one consultant to voice its views while the initiators (say, data processing) prefer another consultant. Most reputable consulting firms will not get into the middle of this type of assignment. But to avoid such possibilities occurring later on in the project, all involved departments should have representatives on the planning and selection committee. And all known contentions should be ironed out ahead of time as much as possible.

Where can consultants help?

In the two project stages we are discussing, what can consultants do for you?

Awareness phase. In the awareness stage consultants can provide an overview seminar on a new technology. This is one way to learn a lot about a subject quickly. Such a seminar might include what James Martin discusses in his popular seminars. He describes possible strategies, designs, and management for distributed processing systems, database systems, and networks.

Consultants *might* also arrange a tour of interesting user systems for a client company. Since, at this stage, the client really does not know the important aspects to notice on such a tour, it should be preceded by a 'briefing'. At this introductory meeting the consultant would describe the companies that will be toured, their applications of interest, and the most intriguing aspects of these systems.

We say consultants *might* provide this tour service. Many consultant firms will not release names of clients, much less give tours of them. But we do know that such tours have been arranged. Government agencies and universities, for example, are often willing to talk about their work. And such tours are real 'eye openers' for clients, we are told.

Narrowing phase. We suspect that most consulting contracts start in the narrowing phase, after user companies has gained some knowledge about a field. In fact, consultants are probably one of the best outside resources to use for this tailoring process. University research programs, video tape courses, consultant research programs, and even user roundtables provide more generalized information; they usually do not focus in on a company's specific requirements. So in this phase we see consultants being quite helpful in leading clients in identifying corporate goals, creating long and short term plans, and initiating projects.

Now let's turn our attention to starting a user roundtable.

Starting a user roundtable

A user roundtable is a group of people with a common interest which meets regularly to exchange ideas and experiences. Membership is usually limited, to keep the size of the group small for ease of discussion. Often no members from vendor or consultant firms are allowed. And generally there is little or no money involved. Costs are limited to meals, agenda mailings, and reproducing articles and papers. The chairman, secretary, and host positions are crucial to the group's success, and these are usually rotated among the members.

Of interest to us here are two user automated office roundtables that have been formed in the United States within the past two years. One is in New York, the other is in San Francisco.

The Office Automation Roundtable

About two and a half years ago, a corporate data systems executive in a corporation based in New York City began investigating the automated office. He attended a few conferences and made a few contacts. He then began looking around New York City for people in other companies who were also exploring this new field. He found about fifteen, so he asked them if they would like to join him in starting an office automation roundtable. These people agreed, so an organizational meeting was held. The calendar for the first year's activities was drawn up, and guidelines for operation, requirements for membership, and responsibilities of members were created.

The group's purpose is to exchange information, experiences and ideas about the office automation area. The group meets one full day every six weeks at the current chairman's company, and the chairmanship rotates every meeting. The secretarial function, which consists of mailing agendas, reproducing pertinent articles and handouts, etc., is the responsibility of the host.

Today, the group consists of representatives from fourteen organizations. These include companies from the insurance, banking, petroleum, container, communications, and transportation industries plus a university and several government agencies. The members also come from varied backgrounds: data processing, office administration, telecommunications, law, and human resources. The group does not want to expand much beyond its current size, because that would hamper the informal discussions.

The meeting formats vary. Sometimes the chairman invites an outside speaker, to learn more about a specific topic. At other times, most of the day is spent in roundtable discussions of one or two subjects, such as: organizational responsibilities, strategic planning for the automated office, micrographics, management of change, fu-

ture communications in the automated office, etc. And at each meeting, all of the members bring the group up-to-date on their companies' experiences since the last meeting.

What have been the benefits from this group? Well, the original organizer told us that the group has provided him with a lot of good ideas for his company's benefit. And it has steered him away from potential problems. He knows what is possible and not possible to do today. Since starting the group, his company has created a long term strategic office automation plan, initiated an action plan, and started some pilot projects. So hearing others' experiences has helped him in both the awareness and narrowing phases of moving toward the automated office.

The Automated Office Forum

Early in 1978 three people in data processing departments in three companies in San Francisco, California, were meeting together. They decided it might be worthwhile to start up an automated office roundtable, similar to the one they had heard was operating successfully in New York City. There are a number of corporate headquarters of major companies in San Francisco, so they felt they could find enough members. This they did and, in April 1978, the first meeting was held. By October the group's rules had been drawn up and approved. They decided to call themselves the Automated Office Research Forum.

The forum currently has twelve organizational members. From each, a maximum of three people can attend each meeting, plus one guest. A company wishing to join sends a guest to a meeting, and then the group votes on whether to accept the organization.

The forum meets once a month, at a member site. The two and a half hour meetings begin with lunch and are followed by either a formal presentation, a tour of an application at the host com-

pany, or simply a discussion of a specific topic.

The forum has a three-member steering committee: a president, a vice president and a secretary. Each officer serves for two months in one position, and then moves to the next higher position for another two months. So a new secretary is elected every other month and the current president retires. In addition, there is a host for each meeting. This responsibility rotates monthly. It is the host's job to provide the meeting facility, arrange for lunch, and plan the program.

The forum consists of a wide variety of companies and departments. It includes a bank, a food manufacturer, a shipping firm, an oil company, a utility, a process engineering firm, an aluminum company, and a university. Group members come from data processing, word processing, micrographics, and reprographics. Most of the members are managers, although a few are technicians and analysts. Some of the companies have established automated office projects. And several belong to consultant programs. These members review the conferences they attend at the meetings, so the forum is continually aware of what is happening elsewhere in the automated office field.

We found the variety of applications they have visited very interesting. They are taking a very broad view of 'the automated office'. They have seen an automated warehouse, an integrated word processing/photocomposition system, a computer-based distributed word processing system, a combined message switching/facsimile network, an electronic mail service, and a distributed network with some elaborate error detection facilities.

One of the group's organizers told us that the application tours have proven most useful, because they are quite detailed. For one thing, he says he now is better able to define some of his own company's requirements for such future systems. And he has a better knowledge of

what, say, a full electronic mail system really can provide. Also, in the group discussions, he hears the bad as well as the good. He hears about others' experiences with vendors, and he finds he is now more able to make an intelligent evaluation of offerings and suppliers. From the most recent round of tours, he is seeing how companies are extending and enhancing their applications.

Pros and cons of user roundtables

We have already mentioned some benefits of roundtables. They fulfill the awareness phase well. Members find out, in quite a bit of depth, what other companies are trying, what can work, what will not work, and what's new in the field. In fact, from what we have seen, roundtables keep members somewhat ahead of the field by alerting them of possible future directions as a field matures and the discussions look to the future. Also, user roundtables are convenient to participate in. There is very little travel, they do not take up much time, they require very little administrative and secretarial support, and they do not cost much out-of-pocket money.

But to make a user roundtable successful requires continued involvement by *all* members. First, everyone needs to take a turn in a leadership role, as chairman, host, presenter, or secretary. Second, each member needs continually to be aware of pertinent work going on within his company. And third, each person needs to participate in the group discussions, based on knowledge of in-house work. Without this continued participation, the group will probably dissolve. Most roundtables establish rules to make involvement requirements clear, such as each company must host one meeting a year, if you miss three meetings you are out, the same person must attend each meeting, and so on.

Another problem is secretarial support. Some arrangement needs to be established at the outset for preparing, maintaining and distributing pertinent documents.

These are not elaborate, of course, but they must be taken care of. And having prepared synopses of the more formal presentations does contribute to their usefulness. One person we talked with said this responsibility was actually more crucial to the group's success than the chairman's position.

We have noticed that most companies do not yet know who should be responsible for the automated office function. It is a cross-function field. For this reason, limiting a roundtable to one member per company may be a problem. It might be better to have several representatives each. This would broaden the types of disciplines involved and the exposure within the participating companies.

A potential problem is finding enough members to even start a user roundtable. In the larger cities this is not a problem. In fact, the opposite is true—too many potential members. But in smaller cities, and cities where most companies have offices but not corporate planning staffs, finding enough members may be a problem. A possible solution is to consider a larger geographic area for the roundtable membership. This is not so convenient, but it

might be worth the extra travel and expense.

Conclusion

We are finding the larger companies now in the awareness and narrowing phases of preparing for change in the areas of distributed database systems, the automated office, and such. And we see them using a number of outside resources to help them in their planning. Next month we will discuss two more sources of information: consultant research programs and multi-disciplinary research organizations. We think these approaches can also be used by smaller organization to help them better prepare for initiating technological change.

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