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WORD PROCESSING: PART 2

Last month we discussed the equipment side of word processing, where it has been, where it is today, and where it seems to be going. But the word processing people we talked to agree that equipment is not the most important ingredient. If the way word processing is organized, the procedures, and the people do not fit the company's environment, then no amount of equipment will make it a successful operation. So in this issue we deal with the more illusive organizational issues involved in getting into word processing.

The United States Federal Aviation Administration (FAA) is the agency that regulates air commerce and traffic within the United States. It oversees a national system of airports and a common system of air traffic control. There are 12 regional FAA offices; we visited the Western Region office located in Lawndale, California, a suburb of Los Angeles. There are approximately 500 employees at this office, working in such functions as air traffic, flight standards, air transportation security, airports, law, and aircraft engineering.

In early 1975 the U.S. General Services Administration in Washington, D.C., recommended that all federal agencies investigate setting up word processing (WP) centers, in order to save money as well as to increase personnel productivity. Prior to that time, the FAA western regional office had been using two WP machines for various applications for several years, but had not actually formed a WP center.

So in mid 1975 they decided to investigate WP by first surveying the typing workload in two of their divisions—air transportation security and airports—as a sample of the total workload that a WP center would have to handle. There were a total of 30 principals in these two divisions. (As an aside, an *author, word originator* or *principal* in WP terminology is any person in the office who initiates written business communications; some examples are an executive issuing a memo, an accountant updating a financial statement, a policeman filling out an incident report or a personnel clerk issuing an insurance claim.) This initial study determined that the workload could be handled by one correspondence secretary using their existing equipment—a single terminal Lexitron display text editor.

The next step in the study was a three-month test. During this test, all typing work from the two divisions was sent to the secretary at the WP center. As so often happens when a WP center is started, a lot of "hidden" work began appearing. This is work that should be done but has never been done due to the lack of enough secretarial support. This work most often comes from lower level management and other personnel who receive "leftover" secretarial support in a traditional secretarial arrangement.

At the end of the test period, the WP study group had a good idea of the workload that a WP center would have to handle. The next step, then, was to investigate the various types of WP equipment on the market. So for the next several

months, the WP study group visited numerous other WP centers. Based on their findings, the study group recommended that the FAA procure a shared-logic system with multiple terminals; the Lexitron system was to be retained, as we will mention below. A new shared-logic system would allow them to have a central file and it would give them extensive editing capabilities. They chose a Daconics system with six gas plasma display stations, three 440 words-per-minute Diablo printers, and three disk packs of storage capacity (one archival pack and two working packs). They also installed a central Norelco dial dictation system.

The gas plasma screen does not need to be refreshed as does a CRT, and the FAA finds this is easier on their secretaries' eyes. They have two display stations associated with each printer. These stations use the working disks, each with a capacity of 575 pages of text, for editing prestored documents. The editing features of the Daconics system that FAA finds particularly useful for their applications are: the "landscape" feature for working with 140-character-wide documents, the 10,000-word hyphenation dictionary, the global search and revision features, the subscript/superscript capability, and instant recall.

At present, the WP center employs nine people: one supervisor; one editor, who proofs all work for substance quality, assists in training and is the backup supervisor; one system analyst, who does the initial paperwork survey in the divisions and who helps organize the administrative support secretaries within the divisions; and six correspondence secretaries, two of whom are men.

By early 1976, (a) the user manuals for the security and airports divisions were compiled, (b) the site for the center was chosen and furnished, (c) the personnel for the center were chosen and trained, (d) dictation training for principals was arranged, and (e) principal training for the two departments was scheduled. A workload survey of the regional counsel office was also done, with plans to bring this work into the center after the other two divisions were converted and receiving fully satisfactory service.

In June 1976 the center began operation with the pre-storing of some 200 documents used in the security, airports and legal divisions. These included general forms, special purpose forms and specified formats, and letters. Each principal in these divisions received a user's manual when his division began using the center. A manual contained a copy of each of the pre-stored documents, a dictionary of often misspelled and sound-alike words, a phonetic alphabet, tips on good dictation methods, and procedures for submitting work to the center.

A typical use of the center is as follows. A principal dials the telephone dictation number and specifies which pre-stored document he wants used. He then dictates the variables to be used with the document. On his copy of the document, the blank spaces that have been left for variable information have been numbered, so in dictating he need only give the variable information for blank #1, blank #2, and so on.

For creating a final copy of this document, the transcriber at the center calls up the requested document onto the screen from the disk file. He or she then enters the variable information in the specified blanks and puts the finished document into the print buffer. The print buffer can hold up to 29 queued documents, with priority documents moved ahead of other work.

In the security division, there are 15 principals who previously had one typist and one secretary/specialist. The principals had done some of their own filing and typing due to the heavy workload. In June 1976, when their typing was being handled by the new WP center, the two positions became administrative secretarial positions. The WP system analyst studied their workload in order to redistribute it between the two and improve office efficiency. The secretaries were moved to a location central to the 15 principals. A central telephone answering procedure was installed, and the non-typing secretarial work of the division was distributed between them. The decision on who would handle the various jobs was made by the secretaries themselves, based on their preferences and skills. They handle filing, directives, mail, small typing jobs, telephones, collating, research, employee identification photography, and dictation to the center for their principals. This new arrangement has, to a large extent, freed the principals for their primary duties.

The FAA still keeps their stand-alone Lexitron display for other division secretaries whose offices are not yet served by the WP center. They use the self-teach training manual that comes with the system. Secretaries are anxious to use the machine, we were told, because it has numerous edit-

ing capabilities and because they can store documents on the cassettes which the system uses. This display station is constantly in use by these other secretaries.

The FAA is pleased with their new WP center because it is gradually taking over the typing functions within the divisions. Last summer, they began serving the airport transportation security division, followed by the airports department, and in the fall, they brought in the regional counsel office. They believe that their current system will be able to handle the entire typing workload because it is expandable.

Jewel Companies

Jewel Companies is a diversified retailer with headquarters in Chicago, Illinois. Jewel consists of nine autonomous companies which operate supermarkets, drug stores, sandwich shops, self-service mass merchandising stores, and an in-home shopping service. Jewel has sales in excess of $2.8 billion a year and employs 21,500 full-time and 30,500 part-time employees.

In late 1972 a WP system was planned at the Jewel corporate office, using IBM mag card equipment. There were 83 principals and 34 secretaries then in the corporate office. But the idea of being a correspondence secretary in a WP center was not well received by many of these secretaries, so any secretary wishing to work in the traditional one-for-one environment was offered a transfer to other Jewel Companies.

The WP center opened in February 1973 with 12 secretaries, a coordinator and one supervisor. The administrative secretaries who remained in the various departments at the corporate office were reorganized into cluster groups. They continued to report to their principals, rather than to an administrative support supervisor.

The WP operation had top management support from the beginning, but it did not have middle management support. Work turnaround from the WP center was not fast enough to please users, we were told; the paperwork load on the administrative secretaries was "horrendous," cooperation among administrative secretaries was "limited," and communication between the secretaries in the WP center and the administrative secretaries was "strained." In short, the WP management team felt they had some real problems to resolve.

So, Jewel experimented with an administrative support (AS) task-oriented approach, where one secretary would do filing for several principals, while another handled the telephones for several principals. They found that this would not work because no one secretary would have a total picture of a principal's work. And the principals did not want to deal with more than one secretary each.

In mid 1973, the administrative services department was given direct responsibility for the AS function in the departments. Principal-oriented secretarial teams were formed. One typewriter was left with each cluster group. The secretaries began to perform like teams by keeping each other informed on their work and by substituting for one another when necessary. A manager of secretarial services was selected and she, along with the WP manager, began working on the turnaround and communication problems. Meetings were held within the departments to iron out problems.

There are now four secretarial grade and salary levels, with correspondence and administrative secretaries having the same grades and salary levels. These four grades are: associate secretary, secretary, senior secretary, and secretarial specialist.

Administrative secretaries are assigned to principals depending on the content of a principal's work. The more complex the work, the higher level the secretary. The secretarial supervisor and principals interview all AS secretarial applicants.

Jewel now as 110 principals at the corporate office. They are served by 12 correspondence secretaries, a co-ordinator, and one supervisor in the WP center, plus 19 administrative secretaries and one supervisor in the departments. So there are 31 secretaries, a co-ordinator, and two supervisors for 110 principals, as compared with 34 secretaries for 83 principals previously.

The people at Jewel have learned a number of things from their experiences. Primarily, they learned to expect evolution in fitting the WP/AS operation into their organization. And they recommend that other companies take this approach also. They are pleased with their current operation because it allows them to control their costs, not only within the WP center but also within the AS teams. The department managers have been relieved of the secretarial management task, and

Jewel has found that principals often prefer to talk to an AS supervisor rather than to a secretary when there is a problem.

Jewel also finds that there is better distribution of workload within the AS teams now. The productivity of the AS secretaries has increased, as has their job satisfaction. These secretaries now see career opportunities that were not available in the one-for-one manager-secretary arrangement. And some of them are developing new skills and becoming specialists in their own areas of interest.

Jewel believes that the administrative secretary is the key interface between principals and the WP center. The AS secretaries can either smooth out or cause irritation and thus can make or break the operation.

Jewel now is much more satisfied with what word processing and administrative support are doing for its corporate office.

The Rand Corporation

The Rand Corporation is a government-funded and foundation-funded research organization with headquarters in Santa Monica, California. Rand employs about 1000 people, with 75 people in the publications department. Being a research organization, Rand's major product is research reports, so the appearance quality of these reports is very important to them. The publications department handles 30,000-40,000 original research pages each year, and distributes over one million publications per year. Thus, the operation of this department is important, from both cost and efficiency points of view. Based on three criteria—the physical appearance of their publications and cost and efficiency of their operations—the publications department has been investigating and incrementally implementing WP technology for the past ten years.

In 1968 Rand purchased a number of IBM MT/STS (magnetic tape/selectric typewriters) both to handle WP tasks and to aid in preparing research manuscripts for editing and final publication. These are stand-alone machines from which an error-free magnetic tape cartridge can be produced.

In 1969 the publications department decided to typeset some of the most formal of the Rand publications, known as the Rand reports. Over 200 Rand reports are produced each year, with each going through formal editing and technical review procedures. After a Rand report manuscript was error-free and produced on an MT/ST tape cartridge, this cartridge was taken to the Rand computation center and run through a cartridge reader into the IBM mainframe computer. A regular computer tape was created and sent to a vendor for output in galleys on a high-speed Videocomp CRT phototypesetter.

In 1975 the department began using a powerful, on-line text editor, called WYLBUR, available on Rand's IBM 370/158. Line-numbered printouts of manuscripts typed both on-line and off-line are now used for proofreading. CRT terminals are used to make corrections and imbed typesetting codes in the stored text. Authors and secretaries throughout Rand also use WYLBUR, via portable terminals connected to ports in their offices. So the publications department is now receiving some manuscripts already stored in the computer, thus avoiding re-keystroking.

The department also continued to use the MT/STS, however, because they did not want to rely totally on WYLBUR. For one thing, the department still has to produce high-quality form letters and handle other traditional kinds of WP operations. Also, it is expensive to type everything on-line. And since the computer occasionally goes down for short periods, an off-line input system ensures continual operation of all typing stations. Some types of work are not well suited to WYLBUR, such as many mathematical formulas and tabular work. And classified or sensitive text cannot be input to the computer except at certain specified hours (usually some time around midnight), for security reasons. Finally, the quality of output provided by the in-house line printer was just not acceptable for some kinds of work.

In early 1976, the department began looking for new WP equipment. They were unable to find a shared-logic system that suited both their needs and budget, so they decided to use Redactron dual tape units on a short-term basis. These machines give them a number of input/output options. Input may be made on-line, using the Redactron communications facilities and conversing with WYLBUR. Or it may be made off-line using the Redactron WP software and recording on a tape cartridge. These tapes can then be input to the mainframe using the third option, high speed (2300 baud) remote batch terminal. Output from

WYLBUR can also be made via this high speed option, allowing tape cartridges to be made and then printed out on the Redactron selectric typewriter. The Redactron units now allow them to replace the MT/STS, communicate directly with WYLBUR or work off-line, and output either to their own keystations or to a tape for typesetting.

The people in the Rand publications department are continuing to investigate new WP equipment announcements. They envision eventually having their own shared-logic system that will tie together the many facets of their operation.

Should you consider implementing word processing?

We recently attended a major WP conference where we heard numerous comments on successfully implementing WP. We shall reference a number of these comments in a general manner, because it is impossible to attribute them to any particular attendee of the conference.

The benefits of WP fall into three areas: (1) increasing the productivity of correspondence secretaries by replacing their typewriters with WP equipment; (2) increasing the productivity of administrative secretaries by taking the typing load from them and by reorganizing and expanding their responsibilities; and (3) increasing the productivity of principals by giving them an improved range of secretarial support.

These benefits can be obtained *if the solution fits well with the company environment.* La Due (Reference 1) makes the point that a WP operation designed for an insurance company probably will not work in an advertising agency. The response requirements, the complexity of the work, and the variability of the documents may be so different between these two companies that a WP operation designed to work efficiently in one environment will not work well in the other environment. At the conference we attended, we heard this theme echoed time and time again.

In a "first generation" WP installation, the ideal solution that everyone sought was one WP center combined with departmental clusters of administrative secretaries. In the early 1970s it became clear that the stiving for this "perfect WP organization" had caused many attempts to fail. So in the intervening years, a number of alternative possibilities have been implemented. In general, they have achieved the same desired benefits of increasing productivity.

A number of attendees at the conference stated that the key to obtaining a successful WP operation is flexibility. It is important to be able to mold and evolve the WP operation to fit the company. Do not expect the first design to be the best and final solution.

The answer we have heard to the question: "Should you consider implementing WP?" is "Yes, provided it can be fit into your company's environment."

In this issue we shall discuss the key aspects of implementing a word processing/administrative support (WP/AS) operation:

- The organization question
- Top management commitment
- The feasibility study
- Staffing and training
- Procedures, manuals and controls
- Training authors

A note about gender. Both men and women can be and are being employed in the WP/AS function. But since women predominate, we will simplify our discussion and use only the feminine gender.

The organization question

The corporate view

A major question that top management should consider is: "Where should WP/AS fit in our organization?" At the WP conference, we found that the current trend is to create a totally new department, often calling it "administrative services." The WP center and the AS groups are put in this department, along with the mail room, the print shop, and the copying services.

This view is probably only a short-term solution. In the near future, when WP is incorporated into the "office of the future," many diverse technologies will interconnect, making separation of authority difficult. The WP system will interact on-line with the corporate data base, with the in-house print shop, with branch offices, and with public communication networks. How will these activities be co-ordinated to the company's benefit if WP, data processing, and communications are under separate managements and operate under often conflicting assumptions? It is in management's best interest to view WP as the forerunner of the automated office and organize for these eventual inter-relationships.

Poppel (Reference 2) and Strassmann (Refer-

ence 3) both discuss putting all of a company's "information resources" in one organizational component. Poppel proposes creating a new division to handle these resources. He defines information resources as the communication process and its resources, including non-electronic communication forms (such as paper, travel and meetings) and electronic forms (such as data processing, telecommunications and word processing). He reports that there is a trend toward combining responsibility for data processing and telecommunications. A recent study done by his company, Booz, Allen and Hamilton, of 60 midwestern manufacturing companies showed that 40% have now combined responsibility for the computing and telecommunications functions. He states that only a few companies, however, have attempted to consolidate responsibility for the full range of information resources. But the trend toward a more global management of information resources is accelerating, he says.

Strassmann also argues for consolidating management of the information resources of a company, but he would do it under the EDP division head. He states that he has observed in many large organizations that the top computer executive is growing to become the chief information processing executive, rather than remaining the chief EDP executive. In his company, Xerox, their administrative and information services division has an operations group, a software development group, a telecommunications group, and an administration group. The administration group has incorporated the company's mail services, copying, and printing services. Also, they are involved in the whole area of document and text preparation.

We have only recently been hearing much about managing the total information resource, and we shall continue to discuss it in future issues as the idea evolves.

The department view

Word processing actually involves two separate functions: the word processing function and the administrative support function. A secretary who works in the WP function is called a correspondence secretary. She is responsible for transcribing dictation, typing documents, editing revisions, producing final copies, and possibly filing master records. The secretary who works in the AS function is called an administrative secretary. She is responsible for all other non-typing secretarial work.

The word processing function. Brennan (Reference 4a) describes four alternative organization structures for the WP function. One is the centrally administered, single WP center operation, where the WP center is under the administrative services department. All correspondence secretaries are located at the center and all typing and dictation transcription from the other departments in the company are sent to the center. The arguments for this approach seem to be the same that we have heard for centralization of computer equipment. Concentrate the expensive text editing equipment and trained personnel in one location for the most efficient operation, say the advocates.

However, if this center gets unmanageably large or if portions of it become too specialized, another approach is satellite centers within the departments *but under central administration.* This is the second of Brennan's approaches. Accounting might have a satellite center with people trained in statistical typing. Sales might have another satellite center, and so on. These centers may house only correspondence secretaries or may have both correspondence and administrative secretaries. For a large organization, there might be both satellite centers plus a central center.

The third alternative organizational structure that Brennan describes is the central support WP center. In this arrangement, instead of doing all of the typing and transcription for a company, the WP center does only specific jobs. It is a backup to the traditional secretary. For example, all legal briefs or all reports over 10 pages or all purchase orders could be performed at the center. Brennan states that this approach is the easiest to implement, because it does not require secretaries to change their roles.

One problem that often arises in this arrangement is that this center becomes the "leftovers" center, we are told. If the departmental secretaries make the decisions on what work to send to the center, they will undoubtedly send the most undesirable work. To guard against this, jobs that will be done at the center must be clearly defined.

The fourth organizational structure is the departmental WP center. We have also heard this

called the "work group" approach. In this approach the department manager retains control over the center. This approach can achieve productivity increases, but it does not facilitate interfacing WP with other components of the information resources.

The argument for having a WP center at all is that it allows the correspondence secretaries to concentrate on typing, instead of having numerous interruptions that the traditional secretary has. Swett (Reference 4j) states that employees typing in supervised, specialized areas usually are twice as productive as the unsupervised, unspecialized secretary, regardless of the equipment used.

The organization within the center is another question. How specialized should each secretary become? Should she do only typing and no proofing? Should she deliver the finished work or should a messenger do this? Should she do work from all departments or work only for one department? These questions are important for the morale of the center. We have been told that overspecialization is not good; it leads to morale problems. Some people do like to type all day, but their work needs to be varied to keep it interesting.

The administrative support function. The administrative support (AS) function can be performed in two ways, or a combination of these two. The first is called "principal-oriented" administrative support. In this approach an administrative secretary does all of the non-typing secretarial work for one or a few principals. She may serve only one principal if the workload warrants it, particularly if she is raised to a paraprofessional level. She is located close to her principals in an office with one or more other secretaries, forming a cluster or a team. In this approach she may report to an AS supervisor, who reports to the administrative services department manager or to the functional department manager. Or she may report directly to one of the principals whom she serves.

The second approach is called "functional or task-oriented" AS. In this approach an administrative secretary does one or a few jobs for many principals. For example, she may handle travel and meeting arrangements for an entire department. She may be located in the department or in the WP center. In this arrangement, the secretary normally reports to an AS supervisor rather than to a principal whom she serves. The supervisor may report to the functional department manager or to the administrative services department manager.

A combination of these two approaches can be taken, with some secretaries doing a few of the more specialized jobs, while the others perform all of the other jobs for their principals. La Due (Reference 1) points out that an administrative secretary should not be over-specialized in areas where principals require dedicated support. If it cuts down on or hampers a principal's productivity, then it is probably the wrong arrangement. The work environment determines which of these approaches will work best.

Top management commitment

WP involves a major upheaval in the way work in the office is performed. The one-for-one manager-secretary working relationship is discarded in favor of specialization of the secretarial functions. Because of this, the first and single most important ingredient for a successful WP/AS operation is top management commitment. La Due (Reference 4b) points out that WP/AS will become a total organizational involvement, so top management must make a clear statement of their backing and of the specific objectives of the program. We interpret this to mean that top management itself uses the WP/AS function rather than using one-for-one secretaries.

Management must also be patient. Not only does the planning for WP/AS take time, but also its implementation takes more time. We have heard of paperwork turnaround times from WP centers not being reduced to the desired levels for three months to two years after the centers started operation. This is not desirable, of course, but it does happen. Management should be aware that these types of delays can occur. Hopefully with careful planning and phased implementation, such delays can be avoided.

The feasibility study

Once top management commitment has been obtained, an evaluation of the existing work flow needs to be performed to discover what types of WP/AS organization will work best. Burk (Reference 4c) believes that a three-part study is most effective. This study consists of: obtaining secre-

tarial job descriptions, studying the documents, and taking a random sampling of what the secretaries are actually working on.

The secretarial job description study should develop the functions secretaries perform and the estimated time requirements for each function. For example, for each document type, the study should determine the time spent in original typing, the amount of revision normally required, and the required turnaround time. This will help determine the cost of producing this document, for future reference and comparison. The non-typing jobs need to be described similarly.

The documents study discovers the types and volume of work done. For each document Haider (Reference 5) recommends recording its type (format, paper size, final copy paper stock requirements, etc.), its size or volume (minimum pages, average pages, maximum pages), its originating rate, its amendment rate, its amendment method (completely revised, replace specific pages, etc.), the number of draft copies normally required, and special remarks. In this study, documents can be catalogued into generic forms, such as text pages (as found in manuals), correspondence pages (as found in letters and memos), and statistical pages. Other categories could be used, such as commonly used formats, form letters, periodically updated manuals, and documents requiring high quality lettering or multi-fonts. This information will be used to select the correct equipment for the various jobs, as well as the types of secretaries that will be needed. We have heard of week long, month long or longer documents studies. It all depends on what time period constitutes the typical workload of the department, to make sure that all document types are considered.

The random sampling estimates the actual workloads and the secretarial inefficiencies, such as away-from-desk time, waiting time, "go-for" time, etc. It acts as a double-check for the two previous parts of the study.

IMC (Reference 10) states that WP/AS could be the most successful or the most disastrous project a company can undertake—depending on planning. They suggest a six month feasibility study for counting documents, determining costs and office space, and discovering hidden costs. Konkel and Peck (Reference 6) describe in some detail the mechanics of the feasibility study.

Cumpston (Reference 7) discusses who should perform this study and gives three alternatives. First, it could be performed by an in-house staff. The FAA western regional office has one WP staff member who does this job. As each department is considered for use of the center, this person does the feasibility study. She and the WP supervisor then work together to determine the standard forms that will be pre-stored at the center, the number of personnel that will be needed at the center to handle the department workload, and the training that both the principals and the secretaries will need. She also reorganizes the department secretaries into AS groups and redistributes their workload.

The in-house approach will work if there are people knowledgeable in analyzing paperwork flow. If this is not true, then a second alternative is to form a team of in-house plus vendor people. Coast Federal Savings, whom we discussed last month, took this approach. One problem here is that the vendor's knowledge may be too general to develop the most efficient plan for a specific company. With in-house people on the team this shortcoming may be overcome. Also, the vendor will tailor the design to fit his equipment, which might not be the best solution.

The third alternative is to hire a WP consultant. Such services are available, but Cumpston notes that these are not inexpensive. He suggests that companies planning to use this alterntive check out the consultants first, perhaps by attending their seminars.

Once the study has been completed, the equipment best suited to meet the applications must be selected. Last month we briefly discussed the various types of WP equipment and their most likely cost-effective uses. Coggshall (Reference 4b) and Haider (Reference 5) both give examples for matching application types and volumes with equipment types.

It is hard to say which step should come first and which second in all cases when planning a WP/AS operation. Some companies perform a cursory feasibility study before deciding whether to consider WP at all. Once management has made this decision, then a second, more in-depth, study should be made. The central people who will run the operation should be selected as soon as possible, we are told. The prospective WP center supervisor and AS supervisor should be involved in the feasibility study. The success of the entire pro-

gram will ultimately rest on them, so they should be involved in the early decision-making.

Staffing and training

One of the first hurdles that a company meets is secretarial hostility to the idea of WP. The secretaries fear that they will lose their jobs. Or they object to being put into a typing pool. Some have worked for the same boss for many years, and they do not want to change bosses now. Or they do not want to learn new skills. And so on. These feelings stem from a fear of change, and the WP implementers must take a positive approach to overcome this fear and hostility. In addition, most managers with private secretaries are just as fearful of WP; they do not want to lose their status symbols and "office wives." Convincing them that the change is for the better also requires a positive, informative approach.

At the WP conference we attended, a number of speakers addressed the problem of creating new job descriptions for WP personnel. The consensus was that new job descriptions should be made as early in the planning process as possible, definitely *before* staffing the center and the AS groups. A prime reason for this is to get the personnel department to realize that these are new jobs and that these jobs have different skill requirements than the traditional secretarial jobs. Getting these requirements down on paper is a big help in seeking qualified people and for future reference.

These job descriptions also delineate the various levels of positions within WP and AS, which should provide career paths and uniform personnel policies within the organization. In most companies there are no career paths for secretaries; they simply move along with their bosses. The opening of secretarial career paths is one of the benefits of WP.

There are several types of jobs created by WP/AS. These include the correspondence secretaries, the administrative secretaries, the WP center supervisor, the AS supervisor, a WP center editor, and possibly others. We shall briefly describe some of these jobs.

The correspondence secretary

Hershey (Reference 8) states that the success of WP personnel is more dependent upon certain personal characteristics and aptitudes than upon secretarial skills and skill levels. He says that the people best suited to be correspondence secretaries have the following characteristics. They prefer to work with machines rather than with people. They like working with detail. They are amenable to remaining at a work station for long periods of time. They are able to work undisturbed with noise and activity around them. They are able to work under pressure of time deadlines, and they are accustomed to having their work carefully scrutinized.

As far as measurable skills are concerned, Hershey gives the following guidelines. Correspondence secretaries should be able to transcribe material from dictation accurately and should have a good understanding of punctuation rules. They should have a reasonably good vocabulary related to specific business operations, and have a high level of spelling ability. They should have a high level of typing skills, 55-60 wpm as measured on straight-copy testing.

He says that a company should expect to train entry-level correspondence secretaries in operating specific types of WP equipment and in the policies and procedures of the center. A company should also teach them specific vocabulary that is used frequently within the organization and make them aware of organization relationships, divisions, personnel and standards.

The word processing center supervisor

Goldfield (Reference 4d) states that the WP supervisor is the heart of the center, and yet there are few experienced supervisors available. So a company must normally obtain the supervisor from amongst its staff. This has the advantage that the new supervisor already knows the organization and the principals, so she can more easily help them use the new center.

Ferguson (Reference 4e) gives the following composite profile of a supervisor. She spends 30-50% of her time with WP activities outside of the center, seeking to discover cases of discontentment in users and offering solutions. She keeps current with the marketplace, by reviewing literature, attending meetings, and encouraging vendor contact. She fosters an atmosphere of appreciation for a job well done by requesting that authors write notes to secretaries who have done exceptional work. She encourages authors to visit the center at specific open houses. She periodically supplies management with statistical in-

formation to keep them aware of the production, costs and savings of the center. She has an active training program, not only for increasing the responsibilities of her secretaries, but also for training incoming secretaries. She continues user education for incoming staff, providing tours of the center, dictation training, and introduction to use of the center.

Goldfield points out that the WP supervisor will probably be most in need of training in management and motivational skills. Within a center, individuals can lose their identities and a supervisor must treat this problem. Fostering teamwork, anticipating problems, leveling off peak periods, stimulating career growth, and encouraging positive reinforcement are techniques that secretaries who become WP supervisors need to learn.

The number of sources of training for WP supervisors is growing. We would recommend contacting the International Word Processing Association (Reference 9) for information in this area.

Within the center there may be other specialized positions. In the FAA western regional office, they have a person who does paperwork flow analysis and feasibility studies. In addition, there can be an assistant supervisor who makes the assignments within the center and assists in training. One person could also be a proof reader, checker, or editor, for checking the quality of all material leaving the center.

The administrative secretary

Once the typing load is taken away from a secretary, she may feel lost and unneeded, we were told. The people at the Jewel Companies define the duties of an associate administrative secretary as follows. She handles telephone calls and records messages accurately, keeping a telephone log. She opens and routes incoming mail and reviews and distributes outgoing mail. She keeps appointment calendars for principals and she greets outsiders. She maintains indexed files (correspondence, etc.). She maintains a followup system to be sure deadlines are met, and she works with the WP center to keep work flow efficient. She makes travel and hotel arrangements, and prepares itinerary and expense sheets. She proofs documents, and performs routine administrative tasks.

Contrast these duties, which most traditional secretaries have always performed, with the following duties that Jewel assigns to a senior administrative secretary. She handles phone calls, and when desirable, arranges to have the principal return the calls at the set time. She prepares a list of such calls, together with relevant information (such as the purpose of the call) and the necessary files for ready reference. She opens mail and summarizes replies requested. She may draft and dictate replies to routine correspondence, or she may dictate a principal's rough draft reply. She arranges mail in order of importance and gathers background material to facilitate the principal's action. She reviews outgoing mail and determines whether a followup is required. She organizes material for meetings, setting up appointments and meetings to consolidate free time. She makes travel and hotel reservations. She notifies the WP center in advance of heavy workloads, and she proofs all work from the center. She assembles files, manuals, etc., to assist principals on projects or reports. And she assists with statistical reports through correlation of facts and figures from other sources. Burk (Reference 4c) points out that a person doing this level of work is almost at a junior staff level.

IMC (Reference 10) states that people who make good administrative secretaries prefer flexibility, new work challenges, and control over their destiny. This does not really pinpoint personal characteristics, and the reason is that there has not been much study of administrative secretaries in the WP field. Many more studies have been made of correspondence secretaries working in WP centers. We have heard of some training facilities for administrative secretaries; for more information, contact Reference 9.

The administrative support supervisor

The AS supervisor takes over the secretarial administration role that bosses have had in the traditional secretarial arrangement: supervision, personnel relations, training, and allocation of work. She knows all of the work required of the AS teams that she supervises. She arranges for secretarial training in dictation and the operation of calculators and adding machines. She establishes standard procedures for filing, telephone, mail, requisitions, and reports, so that team members can easily fill in for each other. She makes sure that a principal will not feel the loss of his admin-

istrative secretary, even when she is on vacation. She helps the personnel department with job descriptions. And she structures the jobs to be interesting and motivating.

Burk (Reference 4c) points out that most managers receive little or no orientation in the efficient use of administrative assistants. The AS supervisor is important in getting principals to delegate the proper work to their administrative secretaries. By doing this she can improve a principal's productivity as well as improve the secretary's role.

Determining the true needs of principals in the AS area is not an easy task, supervisors at the WP conference stressed. One way to begin, an attendee suggested, is to start with the principal who "appears to be busiest," because this person probably does not delegate work well. He needs to be urged to use his secretary more efficiently. This is an iterative process. The first work that a principal will delegate is probably the more menial work. Only after the secretary has shown that she can handle this work will she be given more meaningful work. Principals who are not used to delegating work need extra coaxing. This is the job of the AS supervisor, and it is an important reason for having such a supervisor. She will be more likely to discuss such matters with the principals than would another principal. Her ability in this area can be important in gaining the benefits of increasing the productivity of the principals.

Facilities

Instituting WP/AS often requires restructuring the physical facilities within a company. This includes creating new secretarial offices and redesigning the in-company telephone system.

In the traditional secretarial situation, no one pays much attention to the secretarial environment. Her office is just an extension of her boss' office. But with WP/AS this is not true. Her environment must be designed with more than status in mind.

Goldfield (Reference 4f) discusses four elements to consider in designing the WP center: acoustics, color, privacy, and work stations. The automatic playout on WP machines and printers produces a constant loud noise, so WP machines are not suitable for the traditional office environment. For this reason, particular attention should be paid to soundproofing the center through carpeting, drapes and an acoustical ceiling. To counteract the negative connotation of a typing pool, Goldfield recommends using attractive colors and decorative accessories. Color costs no more and it boosts morale and productivity. Decorative accessories help humanize a center. She also states that privacy among work stations is important; secretaries tend to feel more secure and produce better with individual "offices." In the centers we visited, we did not always find this to be true. What we did find, however, was that secretaries like to be involved in the decisions on furnishing the center.

Goldfield recommends that the work stations be designed primarily with the typing job in mind. Work stations should be attractive, hold adequate supplies, and allow sufficient desk space for work. She states that generally 95 square feet (about 10 square meters) of floor area are required for each WP work station.

For administrative secretaries, Burk (Reference 4c) recommends creating mini offices instead of "parking them in the hallway." This arrangement provides a more private and productive environment, since traffic flow is not so obvious. They should be at the hub of the offices they serve. This may not be so easy to arrange if a company has the traditional boss-secretary office structure. An intelligent telephone system that allows secretaries to cover each others' phones without leaving their desks is important, too. And although each secretary does not need her own typewriter, a portable one should be provided in each secretarial office.

Existing walls may present problems if they do not allow creation of adequate floorspace for a WP center or provide a central site for an AS office.

The in-house telephone system may also present a problem. At the conference, we heard one attendee lament that it had taken eight months to redo the telephone system to support his WP/AS operation. This included supporting a central dictation system and providing an AS answering backup system.

The WP people we talked to stressed that the correct physical environment needs to be completely in place before the WP center and AS cluster groups begin operation. This is very important for obtaining an efficient operation quickly.

To aid in your study of WP equipment and services, we have prepared a list of suppliers. See Ref-

erence 11.

Procedures, manuals and controls

As we have mentioned, planning is the key to a successful WP/AS operation. How well the planning is done becomes evident in the WP/AS procedures that are implemented. If these procedures fit in well with the working environment, then they will make the difference between a successful and an unsuccessful operation.

One procedure that is strongly recommended by all WP people we talked to is the formal scheduling of new workloads for the WP center. Roesler (Reference 4g) recommends having a written agreement with each department head on what work will be done by the center. Some work is not appropriate, such as forms not designed for typewriter spacing, material that should be handwritten, or forms with many boxes to check but few lines to type. A department's first use of the center needs to be formalized, with the principals being required to attend training sessions, and cut-over taking place on a specific date.

Other procedures that need to be established are: (1) how to submit or request various types of work to be done at the center, such as original dictation, lengthy reports or revision work; (2) use of dictation equipment; (3) messenger service to and from the center; (4) filing; and (5) turnaround times. For example, one center encourages original work to be dictated, but revisions must be in hardcopy form with the changes marked on the original document.

Manuals for the principals and correspondence secretaries aid them in using the center and in standardization. Standard document formats, paper stocks, and print quality need to be arranged. Usually the WP supervisor draws up these standard formats for correspondence, memos, prestored reports, statistical reports and manuals, and has them reviewed and approved by department management. Manuals for administrative secretaries aid them in standardizing procedures.

Controls also are needed in secretarial procedures. For example, many principals may worry about losing confidentiality when they submit their work to a center. The WP supervisor must stress confidentiality among her staff and initiate security controls in files, duplication, etc. The WP supervisors we talked to saw no real problems in this area; they said that secretaries are less apt to talk about their work when they are in a center than when they are in the traditional secretarial setting.

Train principals

Once all of the above items have been accomplished, the time is at hand to phase in use of the center. As has been stressed to us, all of the aforementioned steps need to have been completed before opening the center, if you expect to have as minimal an upheaval and as efficient an operation as possible.

Phasing in new work generally means training authors to dictate and instructing them on use of the center. WP people agree that keeping employees continually informed on the status of the developing WP operation is important, but this does not eliminate the need for a strong push at the cut-over time. Many people figure WP will go away if they ignore it, and they do not display their negative feelings until the actual implementation is at hand. Medd (Reference 4i) says to expect negative responses from all staff levels, particularly at the time of implementation. Several authors state that top management should be the first to use the center and should then give implementation pep talks to each new user department. Word processing requires this kind of leverage to become successful. Users should be told why the traditional system is being changed and what the benefits of the new system will be. The center supervisor can then give the particulars on use of the manual and the center. Dictation training may be given by the equipment vendor, by training films, or by qualified in-house people.

Medd also stresses that cut-over to the use of the center must be decisive. If principals are expected to use the center for letters, they should not be allowed to continue to dictate to a secretary. They will not change over until they are forced to do so.

High level principals will probably feel cheated at first, because their personal secretaries have been taken away. They will regret losing control over their secretarial support. It is necessary to show them that this loss of control does not mean less support. One conference attendee purposely overstaffed her WP center initially to give responsive support to new users. Further, several supervisors have told us that they watch use

of their center carefully, to identify sudden discontinued use by a principal and to seek out discontentment.

Also, as we have mentioned, the original structure of the WP/AS operation will probably not be the best solution, so continued evaluation and evolution should be stressed.

Conclusion

Few companies today, after hearing the horror stories of past WP implementations, are quickly implementing a pure WP/AS operation. They are, instead, going application by application and department by department. The successful centers we talked to say this approach whets the appetite of other departments. One department using the WP/AS system well and gaining benefits from it is the best publicity possible. Getting that first user department operating successfully as quickly as possible should be more assured by following the steps we have outlined in this report.

There is one other thought, too, that we would like to leave with you. Word processing and administrative support themselves may not fall in the jurisdiction of data processing. But as we have indicated in these two reports, WP/AS is just one aspect of the "office of the future." Other aspects include: computer message systems (electronic mail, which we will discuss next month), the full range of telecommunications services including tele-conferencing, automated typesetting, query/response systems, and so on. It seems to us that it will become more and more difficult to pinpoint boundaries between these aspects and conventional data processing.

Data processing management should be asked to help in the installation and operation of WP/AS systems. After all, WP does use computer technology; the experience of the data processing department in the use of computers should be helpful. But in addition, data processing management may well be called upon to play a large role in the integrated information resources program of the organization. This program would include WP/AS, data processing, and the other aspects of the automated office.

Now would be a good time to begin thinking about your organization's integrated information resources program.

Prepared by:
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EDP Analyzer Staff

REFERENCES

1. La Due, Robert B., "New directions in word processing," speech given at the 1976 National Computer Conference. It is not included in the proceedings. A copy of the speech may be obtained from the author. He is Director, Word Processing Systems, Marketing Programs, IBM Office Products Division, Parsons Pond Drive, Franklin Lake, New Jersey 07417.
2. Poppel, Harvey L., "Information resource management (IRM)—A new concept." Speech given at the 1976 National Computer Conference. It is not included in the proceedings. A summary of the speech may be obtained from the author at Booz, Allen and Hamilton, Inc., 245 Park Avenue, New York, N.Y. 10017.
3. Strassmann, Paul A., "Managing the costs of information," *Harvard Business Review* (Soldiers Field, Boston, Mass. 02163), September-October 1976, p. 133-142; price $3.
4. *The Office* (1200 Summer Street, Stamford, Conn. 06904); price $1.00 per copy.
   a. Brennan, John J., "Word processing is the beginning of the automated office of the future," February 1975, p. 63-65,
   b. "Word processing now and in the future," September 1974, p. 67-71,
   c. Burk, Robert K., "Administrative support," September 1974, p. 75-77,
   d. Goldfield, Randy J., "The word processing supervisor," December 1974, p. 37-39,
   e. Ferguson, James A., "Maintaining a word processing center's productivity," November 1975, p. 80-81,
   f. Goldfield, Randy J., "Work stations for word processing and administrative secretaries," September 1974, p. 47-52,
   g. Roesler, Minerva D., "A word processing success story," May 1975, p. 88-98,
   h. Coggshell, William L. and Harold M. Marchick, "Word processing equipment trends," February 1975, p. 20-36,
   i. "Word processing progress at the Roche Laboratories," May 1975, p. 84-86,
   j. Swett, David D., "Productivity of word processing," August 1975, p. 57-59.
5. Haider, Klaus, "Computer word processing," speech given at Syntopican IV, New York City, June 21-23, 1976. A summary of the speech may be obtained from the author at WPI, Ltd., P.O. Box 9536, Ottawa, K1G 3V2, Canada.
6. Konkel, Gilbert J. and Phyllis J. Peck, *Work Processing Explosion*, Office Magazine Publications (1200 Summer Street, Stamford, Conn. 06904), 1976, price $7.50.
7. Cumpston, Charles, "Word processing," *Administrative Management* (51 Madison Ave., New York, N.Y. 10010), June 1976, p. 100; price $1.75.
8. Hershey, Gerald L., "Education, selection and training of word processing personnel," *Management World* (Administrative Management Society, Maryland Road, Willow Grove, PA 19090), November 1975, p. 3-5; price $12/year.
9. International Word Processing Association, Maryland Road, Willow Grove, PA 19090.
10. Information Management Corporation (610 N. Water Street, Milwaukee, Wisc. 53202) offers ten training films on word processing.
11. We have prepared a listing of the suppliers of WP equipment and services that we came across in our study. For a free copy, write EDP Analyzer.

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