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Word processing in the Omaha Metropolitan Area and implications for business education in the area

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WORD PROCESSING IN THE OMAHA METROPOLITAN AREA

AND IMPLICATIONS FOR BUSINESS EDUCATION

IN THE AREA

A Thesis

Presented to the

Department of Secondary/Post-Secondary Education

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

by

Margaret Dixon Shearer

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THESIS ACCEPTANCE

Accepted for the faculty of the Graduate College, University of

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Master of Arts, University of Nebraska at Omaha.

Thesis Committee

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ACKNOWLEDGMENT

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BACKGROUND OF THE STUDY

In recent years businessmen, including those in the Omaha
metropolitan area, have been introduced to many new concepts in office
procedures. This introduction of new ideas is probably in part because,
while the productivity of factory workers has increased dramatically
since the turn of the century, the productivity of office workers has
tended to remain constant. With the tremendous increase in the volume
and costs of paper work, businessmen have searched for ways to
systematize office procedures to make them more efficient. In this
search many new concepts have been developed.

One of these new concepts is word processing, which is a
systematizing of written business communication. The process of
converting ideas into written communication has been and is being
studied in an effort to make that process more efficient. In such
studies business consultants have found that traditional secretaries,
as generalists, are not efficient in turning ideas into written form
and suggest that this output should be handled by specialists who
perform only this function.

Although word processing is really a concept, many people think of
it in terms of the equipment usually used at present. The input, al-
though it may be shorthand dictation or handwritten rough draft copy,
is usually produced by dictating into a telephone or microphone
connected to a recording unit. The output is usually produced by

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transcribing from a machine on an automatic typewriter or by automatically retyping previously stored material.

Preparing students for office jobs--and, therefore, the teaching of office procedures--is an important part of the educational programs of many secondary and post-secondary schools. Consequently, educators are asking themselves how the concept of word processing should and will affect their curricula in business education.

One school of thought in business and education is that entirely new programs should be introduced. Traditional subject areas like shorthand and office machines should be dropped, and new courses such as machine transcription and automatic typewriting should be incorporated.

Another school of thought holds that there is still need for traditional training, with emphasis on shorthand and manual typewriting. Equipment is changing so rapidly that it is pointless to teach students on current machines. Also, many offices have not adopted the newer procedures so that teaching about them would be irrelevant for many students. Then, too, basic learnings--such as spelling, proof-reading, and grammar--are the major requirements in word processing positions; with a good foundation in these fundamentals, training in the actual procedures and on the machines can be accomplished quickly on the job.

The fact that there is this divergence of opinion shows there is a the need for an investigation of what changes are being made in office procedures and equipment used in written communication and of how schools are being, will be, and should be affected by these changes.

THE PROBLEM

The problem and sub-problems can be stated as follows, along with discussion of the significance of the problem.

Statement of the Problem and Sub-Problems

The problem to be investigated is to what extent the concept of word processing has been adopted by businesses in the Omaha metropolitan area and implications for business education in the schools of the area. This problem can be divided into several sub-problems.

Sub-Problem 1. How many firms in the Omaha metropolitan area are using "Word Processing"?

Sub-Problem 2. If organizations have implemented word processing, how are they defining the term?

Sub-Problem 3. In those organizations that have implemented the word processing concept, how are employees secured to fill the positions.

Sub-Problem 4. What do businesses in the Omaha area that are implementing word processing expect and desire the secondary and post-secondary schools to do in preparing students for jobs in this field?

Significance of the Problem

All of the public secondary schools and a number of post-secondary institutions in the Omaha metropolitan area offer business education programs. If there is going to be a substantial change in office procedures, these schools should alter their curricula to meet

these changing needs. However, if the office procedures in the near future will remain basically the same with little new knowledge or skill needed, it would be a mistake to change proven methods of training for business. It is important, therefore, to find out what is actually happening in offices and what businesses are really expecting from office personnel.

The findings of this study will provide needed information about what is happening in the word processing phase of office procedures in offices in the Omaha metropolitan area. This information will include facts on how business personnel define "word processing" as well as statistics about the number of firms that have word processing equipment. The study will also provide data about how word processing personnel have been secured and information about how these personnel function. This information can help schools plan programs which will properly prepare students for jobs and aid business by helping schools provide properly trained personnel to staff their organizations.

PROCEDURES USED IN THE INVESTIGATION

To answer the questions raised by the problem, the following procedures were used.

1. A one-page questionnaire was sent to a stratified random sample of 300 business organizations in the Omaha-Council Bluffs metropolitan area. This questionnaire asked whether the recipients were familiar with the concept of word processing and whether they were using the procedural concept and/or equipment. A copy of this questionnaire and cover letter are found in Appendix A and B.

2. Based on the information obtained from the above questionnaire, those organizations that were using word processing and were willing to discuss the subject were interviewed. The executives of these firms were contacted by telephone, and appointments were made for interviews. These executives were also told they were to receive a copy of a second questionnaire requesting more detailed information about their word processing operations and training for positions there. This questionnaire, entitled Business Survey, was to serve as the basis for the interview. The longer questionnaire, together with a letter confirming the time for the interviews, was sent to the executive. Copies of the letter and questionnaire are found in Appendix C and D.

During the interviews the executives were asked to clarify their answers on the questionnaire or to expand on them. Any misunderstandings about the purpose of the study or about terminology were clarified. The informants were asked why they had answered the questions as they had. For example, if "Training on machine transcribers" was not checked in Question 6 of Part 2, was it because they did not think this skill was needed or was it because they believed it could be learned so easily on the job that special training was not needed?

DEFINITIONS OF IMPORTANT TERMS

A number of terms used in this paper are either new or used in particular ways as they apply to modern office procedures or business education. These terms are defined below.

1. Word Processing: A systematizing of written business communication by making the best use of people, procedures, and equipment

to allow an organization or individual to transform ideas into written form and distribution for ultimate use in an efficient manner. (See Appendix E for further definition of the term.)

2. Word Originator: The person who writes (dictates) the message to be transformed into written communication.

3. Correspondence Secretary: The person who transcribes the dictation on the automatic typewriter.

4. Administrative Secretary: The person who provides support for the executives or managers, such as answering telephones, making appointments, scheduling transportation, acting as a receptionist, filing, and other activities.

5. Automatic Typewriter: Equipment capable of recording what is typed and then retyping it automatically with the operator deleting errors and making corrections and revisions so that a "perfect" final copy can be obtained. Also referred to as a power typewriter, magnetic-media typewriter, or text-editing typewriter, examples of this equipment are the IBM memory typewriter, mag card typewriter, and MT/ST (Magnetic tape/Selectric typewriter), Redactor I and II, the ABDick Magna I and II, the Olivetti S-14 and S-24, the Xerox 800, the 3M Linolex, and the Wang Word Processor.

6. Centralized Telephone System: The system whereby recording units are connected to an organization's telephone system so that word originators can dictate from any telephone extension within or outside the office building at any time.

7. Entry-Level Job Skills: Those skills which employers commonly expect beginning workers to possess.

ASSUMPTIONS AND LIMITATIONS

A number of assumptions underlie this study and must be kept in mind when the results are interpreted.

1. It was assumed that business and economic conditions will not change drastically in the near future.

2. It was also assumed that the person answering the questionnaire or questionnaires was aware of what was being done in his organization with regard to word processing.

3. The business education programs in the schools are assumed to be planned, at least in part, to prepare students for secretarial work in offices in the community.

4. In this preparation the schools are assumed to try to teach their students the secretarial skills and procedures that are used in the offices at that time.

The study was limited in scope, since it involved only businesses in the Omaha-Council Bluffs metropolitan area. Omaha, a city of 383,300 population, is located on the west bank of the Missouri River in southeast Nebraska. Council Bluffs is directly across the river in southwest Iowa. The metropolitan area, which includes Douglas and Sarpy Counties in Nebraska and Pottawattamie County, Iowa, has a population of approximately 590,700. The survey was limited to those business organizations listed in the Directory of Major Employers of the Greater Omaha Chamber of Commerce and the Yellow Pages of the Omaha and the Council Bluffs telephone books.

No attempt was made to classify responses according to the type of business or industry. The schools concerned commonly train students for work in offices in general, nor for work in specialized areas such as secretarial procedures in banks or clerical practices in insurance companies.

Only those aspects of office procedures involving communications and the implementation of the concept of word processing were studied. Although certain information about equipment was obtained, no attempt was made to evaluate various machines. The functioning of the installations was studied only as it applied to the training and activities of employees.

ORGANIZATION OF THE REPORT

The background for the study, the statement of the problem, the significance of the problem, the procedures used in the investigation, definitions of important terms, and assumptions and limitations have been included in this chapter. A review of related research and literature is contained in Chapter 2. The procedures used to gather data are described in detail in Chapter 3. The fourth chapter contains analysis of the data collected in the survey of 300 organizations and the data collected in the thirty-four interviews with representatives of organizations having word processing. Chapter 5 contains the findings and conclusions, along with recommendations for future research.

Chapter 2

REVIEW OF RELATED RESEARCH AND LITERATURE

This chapter will deal with the nature of word processing, a
summary of the findings of other research on the subject, and a
discussion of the literature on education for word processing.

NATURE OF WORD PROCESSING

There is an abundance of literature on the subject of word
processing. In fact, there are several periodicals which deal with
that subject alone--Word Processing, a publication of the Office
Products Divison of IBM, Word Processing World, Word Processing
Report, and Words, the journal of the International Word Processing
Association. Every issue of publications such as Administrative
Management, Modern Office Procedures, and The Office contain at least
one article dealing with some phase of word processing. The research
and literature reviewed were mainly that which deals with the origins,
current status, and future of word processing and its applications in
the teaching of students.

History of Word Processing

Anderson and Trotter in the book, Word Processing, (2:2-63)
describe the origins of word processing and how the concept is carried
out in various types of organizations. They point out that all
business communication involves the processing of words and always has.

In approximately 1900 American business assumed its familiar characteristics. At that time about ten men were employed in the factory for every one man in the office. In the early twentieth century the boss dictated to a stenographer who wrote in shorthand and transcribed on a manual typewriter. By the 1960's and 1970's, when the ratio of white collar workers to blue collar workers had risen to about one to one, the genius which had so increased the productivity of the factory worker turned to study how the office workers' efficiency might be improved.

As machines and systematic procedures had helped the factory worker increase his capacity for high productivity, so machines and procedures were studied to help increase the efficiency and productivity of the office worker. The basic tools of word processing have been around in one form or another for a surprisingly long time. For output, the first automatic typers were developed in the early 1930's and worked by means of a pneumatic paper roll similar to those used in player pianos. A landmark in the history of word processing took place in 1936 when Metropolitan Life Insurance Company utilized the autotypist to process both full letters and paragraphs stored on paper tape.

As far as the tools for input of information, the telephone was invented in 1876, and this was followed by the first dictation machines in 1888. The final links in the technological development came on the market in 1961 with the introduction of IBM's Selectric typewriter and in 1964 with their MT/ST (Magnetic Tape/Selectric Typewriter).

Although the machines were available, for these tools to increase efficiency as effectively as possible, procedures had to be studied and improved. The concept of word processing first appeared in Germany in the mid 1960's, Textverarbeitung. The attempt was made to systematize business communications and improve the efficiency of those involved. It seems basically inefficient to take the time of both a secretary and an executive for word input as is necessary with shorthand dictation. It is also pointed out that the secretary or "gal Friday," as a generalist, cannot prepare typewritten output as efficiently as a specialist (who does not stop to answer the telephone, greet visitors, and so forth). Various tables are presented to support the idea that word processing is more efficient and less costly.

IBM Corporation in the late 1960's set up at their offices in Franklin Lakes, New Jersey, what was considered an ideal word processing setup.

> The ideal word processing environment consists of correspondence and administrative secretaries; the former sit in a group, or center, that may be located a distance from the word originators, who generally initiate the work that is to be typed by dictating the jobs onto recording units located in the center; the correspondence secretaries type at rough-draft speed on the magnetic-media typewriters, correcting all errors by merely backspacing and typing the correct character over the error; at the press of a button, a perfect copy, incorporating all corrections, is automatically reproduced by the machine as many times as desired at rates ranging from 150 to 350 words a minute; the administrative secretaries do not type but sit in a group, working on a team basis and "support" several word originators by making their appointments, filing, and answering the telephone. (48:331)

Current State of Development of Word Processing

The many articles which describe word processing setups seem to indicate that rarely is the Franklin Lakes ideal followed very exactly. (8:74; 25:12-13) In some cases the same people serve the functions of both correspondence secretaries and administrative secretaries; in other instances, there may be a word processing center, but the word originator still has a secretary who may do some typewriting as well as performing other duties. Centralized telephone systems are used in many organizations; frequently, however, more than one kind of input is used. Handwritten rough drafts and dictation on individual units supplement and add flexibility to the central system.

Economic advantages. The economic advantages of the word processing concept are pointed out in an article in Forbes magazine (21:47). The old-fashioned secretary is described as follows:

> The typical secretary spends just 15% of her 35-hour week typing and proofreading. She is on the telephone 11% of the day; filing and doing administrative chores 21% of the time. During the remaining daily 53%--three hours and 38 minutes to be precise--she is waiting, coffee-ing, chatting or away from her desk.
>
> Of course none of this takes account of the fact that the intelligent secretary can soothe angry customers, alibi her boss's three-hour lunch, do his Christmas shopping and generally add tone to the place. The fact is, she is very expensive. (Her average wage was $132 a week in 1974.) It now costs $3.79 to produce a typical business letter.

It can be shown that word processing can reduce the cost of business communication by as much as 51 per cent (2:17). This seems to be convincing to many businessmen, and they are inaugurating word processing. The comment is heard that it takes anywhere from six

months to two years for the employees to become accustomed to the changes. One executive commented, "For the first time in 18 years I'm having to dictate spelling and punctuation. My former secretary could do most of the stuff herself." (The author does not have permission to identify this quotation.) This man, however, indicated that he thought the savings in costs made the change worthwhile.

Effect on employees. The question arises, how does this affect the employees in the companies that switch to word processing? An article in Industry Week (3:25) states,

> Word Processing Systems are whittling the size of secretarial staffs in some companies, says a study conducted by Deutsch, Shea, and Evans, Inc., human resources consulting firm in conjunction with the International Word Processing Assn.

The article goes on to state that in 27 percent of the companies studied the secretarial staffs were reduced by half; in another 31 percent they were reduced to a lesser extent; in 30 percent there was no change, and in 12 percent there was an increase in staff. In many cases the reductions were accomplished by normal attrition rather than by firing or layoffs. The comment was reported in several cases that the same staff was able to handle an increased volume of business.

Unsatisfactory results of word processing. Not all businesses that have implemented word processing have found it to be entirely satisfactory. The experiences of McGraw-Hill, Inc., and of Security Pacific National Bank are described in Business Week (40:63-64). In 1968 IBM convinced the publisher that it should install twenty-two editing typewriters in a word processing center at its New York headquarters.

The goal was to reduce the number of secretaries. What went wrong was quite simple: Nobody used the center. Without the secretary outside his door, each manager felt he was downgraded. The system was costing the company $80,000 annually, so in 1970 it called it quits. In the legal department of Security Pacific the secretarial staff was divided, as IBM suggested, into word processing operators and administrative assistants. "All we did was concentrate the drudgery for some secretaries and give others more time to run for coffee," said an executive.

In another instance, described by Baily in an article in The Secretary, (4:28-29) an executive in one department of a large organization decided text editing equipment was ideal for his operation—so he installed several CRT processors. It worked well, so well, in fact, that other departments became interested and wanted equipment for their operations. The firm's top management eventually consolidated the equipment from all these departments and created a word processing center that now consumed an entire floor. That particular center functioned very smoothly, and its cost-per-character ranked with any in the country. But when the pioneering department executive needed to get a document processed quickly, a clerk had to take the elevator from one floor to another, then, assuming the document was of sufficiently high priority), the Word Processing Center would begin work. An operator not familiar with the document (and probably not interested in it and perhaps not even very familiar with the department) would do the keyboarding. Finally, after some more elevator travel, the document would get back to the originating department.

If there were errors or changes, the entire process was repeated.
Not surprisingly, typewriters were reappearing in the department.

In response to such problems, IBM itself changed its approach to
some extent. "We made plenty of mistakes in this business," admitted
William F. Laughlin, Vice-president at IBM's Office Products Division.
(40:64) "...centralization was great for some people but terrible for
others. It took us a while to recotnize there are differences in
word-processing centers." IBM is now actively selling a "work-group"
approach, in which an office group with natural boundaries--the sales
department, for example--has its own word processing center, and
administrative secretaries get their typewriters back for light typing.

Lack of change with word processing. In the minds of many business
people, the "word processing center" is still a "typing pool."

> Even some top executives have pointed out to us that
> we were really running a new version of the old steno pool,
> but with plush appointments and fancy gadgetry. Do we
> really believe we are fooling anyone into thinking our
> "system" is anything more? They see WP as drudgery to be
> avoided (pounding a typewriter all day is equated with
> scrubbing floors, with pay to match). They will admit,
> though, that "good" secretaries are hard to find and, if
> we can get the work out with fancy equipment and only
> mediocre people, more power to us and our systems! (28:13)

In his article Baily (4:18) pointed out that something seems to
have gone wrong if word processing was to increase the productivity of
office workers dramatically. In the last ten years (i.e., well after
word processing was introduced in 1964), while the manufacturing arena
has enjoyed an 83 percent increase in productivity, the productivity
in the office has increased only 4 percent--and office costs have
doubled.

Future Developments in Word Processing

As far as equipment is concerned, the revolution in the handling

of business communications may be just beginning.

Computer word processing. Robek describes some of the new machines

which are now available. (49:22-24) Computer word processing, merging

word processing with an electronic data processing system, is becoming

feasible. The components of any word processing system are the same as

those of a computer system: input, storage, processing, control, and

output. In computer word processing the input is accomplished by a

terminal operator first assigning a "unique name" to the document;

the name and text are then keyed into the terminal, a cathode-ray

tube (CRT) or video-screen displays the input, corrections can be made

by backspacing and hitting the correct key; the characters are

transmitted to the computer's working storage, and when the input is

completed, the terminal operator commands the computer system to store

the document in secondary storage; various devices may then be used for

output, such as high-speed on-line computer system printouts, automatic

typewriters, composers that produce camera-ready copy with justified

margins, typeset with full graphic arts quality, or any other form of

computer output.

Optical character readers. New developments in Optical Character

Readers (OCR), according to Balz, (5:48) will allow another form of

computer input which will eliminate the need for the memory typewriter.

The secretary would type a rough draft on an ordinary typewriter, the

copy would be read by the OCR, corrections could be made by various
means, and the output could be produced in whatever form desired.

Electronic mail. The development of communicating devices, facsimile
transmission, and other types of transmission make the paperless
office completely feasible. Electronic mail is possible now, and
many businessmen expect transmission of information by telephone,
Telex, or satellite to be the rule rather than the exception by the
1980's. (31:3-6)

Word processing and data processing. In the past electronic com-
puters have had the capacity to process words, and although computer
printouts are not usually considered to be of sufficiently high
quality for business communication, it has been possible to interface
the computers with automatic typewriters; however, this has not gen-
erally been done, since it seemed to be a sort of electronic overkill
to use the large computer for a simple letter. Now a number of
companies, including IBM and Xerox, have developed equipment specifi-
cally designed to process both data and words, this equipment being
smaller and less expensive than those computers formerly in use.
These computers are being sold to smaller organizations, such as
insurance agencies, which need data processing but also high-quality
word processing. The minicomputer, which with proper interfaces
can be used for word processing, is becoming affordable to even
relatively small businesses. Even with larger computers the output
in the form of letters can be of very good quality with the use of
newer peripherals. A "marriage" of data and word processing even in

large companies with "information processing" under a single authority

is being projected by many authorities.

Cost trends. The high costs of the equipment have kept many companies

from attempting to implement word processing. However, the machine

dictation and transcription equipment have now become relatively

cheap; there seem to be breakthroughs in the area of automatic type-

writers, and it seems possible that the cost of this equipment may

also be reduced dramatically in the near future. (46:1)

EDUCATION FOR WORD PROCESSING

With the changes taking place in businesses, there are a number

of articles and research studies as to how business education should

be affected. There seems to be considerable disagreement among

authorities, with some advocating extensive changes in the curriculum

to include courses of study in word processing, and others advocating

continuation of the traditional courses of study.

Role of Schools

There are a number of articles and several research studies about

the schools' roles in word processing.

Five research studies have been completed regarding word

processing and its implications for schools. Much of the research,

although it presented valuable information at the time written and

although it is of interest in a historical sense, does not apply

acutely to the present because of the rapid changes that are taking

place in office procedures and equipment as they relate to the processing of words.

Kennedy study. Kennedy (26) studied businesses in the San Jose area in the early 1970's and presented the results in her thesis, "The Development of the Word Processing Concept and Its Implications on the Teaching of Shorthand in the High School." She concluded that word processing, when implemented properly, could be viewed as a productive and progressive movement. The evolution of the bookkeeper and data processing offered a parallel to today's secretary and word processing. It is pointed out that years ago the accounting department could have been said to have "processed data"; but this is hardly the way the term "data processing" is used today. Similarly, the secretary of today will find changes resulting from new procedures and equipment. The researcher found that shorthand was still wanted by many businesses and recommended that more capable students were not properly counseled if shorthand was not suggested to be included in their studies.

The study recommended that the two basic courses now offered in the business education curriculum, typewriting and shorthand, should continue to be offered. However, the content of these courses needed to be modified to include materials and learning experiences relevant to the needs of the business community and to give students the best possible chance for employment. In typewriting, students needed more opportunity to type from rough draft copy and to set up properly letters, memos, reports, and statistical copy, with opportunities for problem-solving, editing, proofreading, and evaluating finished copy.

Courses in technical and production typing were recommended for students interested in specialized typing functions who possessed good language and mechanical skills; this might include instruction on modern word processing equipment. Shorthand would be offered but only to students with above-average language skills. A course in machine transcription was recommended as a very important addition to the business curriculum. Simulations for advanced programs in office operations should be provided. Representatives from industry should be made available to the students so they would know what industry had to offer. Business educators should become familiar with the concept and operation of word processing.

Lee study. Lee (32) surveyed a relatively small sampling of word processing operations in the Southeast. Her findings are reported in her thesis entitled, "Identification of Skills, Knowledges, and Understandings Required for Entry-Level Positions in Selected Word Processing Centers." Some of her conclusions were that clerical experience was not a requirement but at least two years of business training were preferred; typing skill of fifty words per minute and over with an introductory knowledge of the automatic typewriter and copier was suggested as a qualification the secretary should possess; and Business English was a definite requirement for all secretaries, supervisors, and managers. All word processing center employees must possess the ability to recognize inaccurate data, to adjust quickly to new equipment and tasks and perform adequately, and to gain rapport with all racial groups. It was recommended that training in the use

of automatic typewriters be included in the business curriculum, that
word processing concepts be introduced to all business students, that
high school clerical students be introduced to the basic concepts of
work measurement in the office, and that emphasis be placed on
spelling and proofreading as good proofreaders are vital to word
processing centers.

Montgomery survey. Montgomery (37) conducted a survey of businesses in
the Rochester, New York, area and reported in her thesis, "A Survey to
Determine What Should Be Added to the Business Education Curriculum to
Prepare the Terminal High School Student for Word Processing." Its
purposes were (1) to form some basic understandings of the word
processing concept; (2) to determine the extent to which the business
office operations were involved in word processing; (3) to learn the
type of preparation that should be provided to insure that incoming
employees possess the needed skills for word processing, and to compare
business recommendations with business education literature and
recommendations.

She concluded, among other points, that automatic typewriters are
an integral part of business communication and that this type of
machinery will continue to grow in use; that business educators still
ignore the fact that business education departments must train for
automation in the secretarial field; that the two imperative skills for
successful employment in word processing are English and typing skill;
that proofreading/editing skills and transcribing/listening skills are
stressed for proficiency on the job; that shorthand was not needed for
the corresponding function but was needed for the administrative

function; and that two attitudes necessary for success in word proc-

essing centers were the willingness to learn and the ability to cope

with pressure.

Further, she concluded that rough-draft skills, proofreading/

editing skills need to be stressed in Typing, that transcribing/

listening skills on dictation equipment need more emphasis, and that

business educators should continue to seek opportunities to commu-

nicate with industry about innovations within the office.

Reiff study. Reiff, (47) for her doctoral dissertation in 1974, sur-

veyed thirty business organizations in the New York City metropolitan

area. She also surveyed business educators to learn their ideas

about word processing. Her study was entitled, "Entry-Level Job

Qualifications and Employee attitudes in New York City Word Processing

Centers and Implications for Secondary School Business Education

Curricula in the New York Metropolitan Area." She reported that

although the schools surveyed did not teach word processing per se,

some of the minimum qualifications may be achieved within the current

curricula. That was to say, high school was sufficient; the range of

typing rate requirements could be satisfied; the shorthand require-

ments where applicable could be satisfied; instruction in spelling,

grammar, and punctuation might be provided under existing curricula;

and instruction in telephone technique might be provided. She noted

that business organizations provided training in operation of magnetic-

media typewriters and transcribing machines and also in spelling,

punctuation, and/or grammar in some cases.

No "pure" word processing center was found in the survey sample, and few had incorporated the concept of the administrative secretary in their word processing systems. Recommendations were that business educators should keep pace with all new developments in the area of word processing; magnetic-media typewriters should be taught to some degree in the secondary schools; instruction on transcribing machines should become an integral part of the typewriting and shorthand-transcription courses; greater emphasis should be placed on English fundamentals; shorthand, although not required, was recommended to increase career potentialities in fields other than word processing; cooperative work-education programs should be established to familiarize students with word processing center environments; student orientation to all aspects of word processing should be provided with emphasis on neutral or unfavorable attitudes; instruction in secretarial office practice courses, office practice courses, office machines courses, and clerical office practice courses should include orientation to the concepts of word processing and practice in machine transcription.

Powell survey. The most recent research reviewed was reported by Merton Powell (42) in his dissertation, "The Modern Automated Word Processing System--Its Implications for Changes in the Curriculum for Business and Office Education." He surveyed twenty-four organizations in the Denver metropolitan area in 1974. His conclusions included the following: (1) good business attitudes are a major concern of employers; (2) all WP secretaries are expected to have skills in preparation of written communication with emphasis on English grammar

and proofreading, as well as composition and editing skills, and typing skills for correspondence secretaries; (3) verbal communication skills were a priority item, with telephone techniques being of greater importance for administrative secretaries; (4) other office skills were somewhat more important for administrative secretaries; (5) typewriting skills were more important for correspondence secretaries with accuracy being more important for administrative secretaries and speed more important for correspondence secretaries; and (6) knowledge and under-standing subject areas (such as systems analysis, automatic data proc-essing, and business law) were rated of lesser importance. He also concluded that where the school was large enough a dual curriculum should be established for both a traditional secretarial program and a word processing system program.

Dr. Powell recommended that business educators should include training in automated word processing in existing secretarial curricula with information on concepts, terminology, and requirements for employment as a minimum; schools where firms with word processing systems existed should find cooperative training stations or should include word processing in simulated secretarial practice classes; the changes should be an opportunity for new approaches and innovations in secretarial programs; knowledge and subject areas for students in-terested in management level careers should be taught; shorthand and bookkeeping courses should still be available; and new instructional methods should be used. He concluded that more research was needed in the area of company training programs as a basis for revising curricula and standards in secretarial programs, with greater articulation being needed.

<u>Other literature</u>. There are also many articles which discuss the
schools' role in word processing. There are several books which
have been designed for possible use as textbooks in word processing
courses.

Frame, in an article in the <u>American Vocational Journal</u> (20:23-25),
describes courses in word processing being offered at Phoenix Union
High School and Luther Burbank High School in Sacramento, California.
Burdine, in <u>Word Processing</u> (9:6-8), describes a word processing course
of study at the junior college level. An article in the May/June,
1977, issue of the same publication describes word processing training
in Ventura County, California, using a mobile word processing
laboratory that visits four schools in the county on a rotating basis
(59:20). In the publication, <u>Word Processing World</u>, the May/June,
1975, issue describes word processing programs at two private business
schools (60:18), and the March/April, 1976, issue (6:12-13) describes
a simulated center at a two-year community college in Texas. Esther
Davidowitz, in the July/August, 1975 issue (17:8,19) in the article,
"At Last, the Schools Are Starting to Teach WP," describes a number of
high school programs. The <u>Business Education Review</u>, (10) published
for State Supervisors of business education, also describes programs in
several states. The July/August, 1977, issue of <u>Word Processing World</u>
(53:86-87) names over a hundred schools that teach word processing in
a partial listing of schools at the junior college, college, and
university level. An article in the February, 1978, issue of <u>The
Office</u> (58:95-97) describes courses at Ball State University, of
Muncie, Indiana, in word processing at the university level.

All of these seem to have much in common. The students are first given instruction in typewriting; when they have developed some typewriting skill, they receive instruction in machine transcription. After skill is developed in this area, they usually receive instruction and practice on automatic typewriters. In several cases the final semester is devoted to cooperative work experience in a word processing center or model office.

Several commercially prepared courses in word processing are now published, often using cassette tapes as a medium for independent study. A program entitled "Comprehensive Word Processing" consists of twenty reel-to-reel or cassette tapes, along with supporting printed material. (35) Another, published by ESP, Inc., (57) consists of twelve cassette tapes and a workbook. The Minnesota State Department of Education, Business and Office Education, has developed a Word Processing Curriculum. (22:15)

There are a number of books on various facets of word processing. Among those intended for businessmen who may be planning to implement word processing are The Word Processing Explosion, (28) by Konkel and Peck, Management's Guide to Word Processing, (27) by Kleinschrod, and Word Processing, (2) by Anderson and Trotter. Word Processing, (51) by Rosen and Fielden covers many aspects of the subject. Word Processing: A Systems Approach to the Office, (34) by McCabe and Popham, Word Processing in the Modern Office, (12) by Cecil, and Word Processing: Concepts and Careers, (7) by Bergerud and Gonzalez, are works which are designed for possible use as textbooks in educational settings.

Role of Business

Although many schools are teaching word processing, not all authorities in business and business education believe that this is necessary. They do not feel that major changes in business education curricula are necessary and some changes may be unwise. Tonne (55:10-11) indicates that secretaries who take shorthand will continue to be important in business, providing the support which is socially and psychologically important for the executive, even if not really economically efficient. He believes that word processing may be a fad which will disappear when its novelty has worn off.

Reiff (48:331-333) found in interviewing thirty-one firms in the New York City area that machine transcription was so simple that employers were willing to train their own employees, that there were so many kinds of automatic typewriters that training on one kind did not improve the students' ability to work on other brands, and that shorthand skill is still important.

> However, contrary to the equipment manufacturers' caveats, shorthand is far from moribund. It is still a useful and, in some cases, a necessary skill. Many offices have not converted to the word processing concept and hire people with shorthand skills. In one word processing center visited, correspondence secretaries were sent out to take dictation from word originators in shorthand and returned to the center to transcribe their notes. A secretary, whether administrative or employed in a non-word-processing environment, will always find the skill invaluable for recording telephone messages or oral instructions.

Cecil, commenting about word processing courses in California schools (13:18) states that most high schools are teaching typing, advanced typing, machine transcription, shorthand, office practice, filing, and business economics in their secretarial programs. Some

presently offer or are planning to incorporate Business English into
their English or business departments. These courses can teach the
required basic skills for successful word processing job training.

A recently published business education methods textbook (Popham
etal. 1975) written by recognized authorities in the field, devotes
less than one page (out of 473) to the subject of word processing.
That treatment of word processing is quoted here in its entirety.

> The need of business for qualified stenographers
> and secretaries is further stimulated by the emergence of
> "word processing," a term used to describe a systematic
> combination of dictators, administrative secretaries,
> equipment, and correspondence secretaries to handle a
> firm's communications effectively.
>
> Some schools offer word-processing programs to
> students who have not met with success in shorthand. In
> many instances, however, such students cannot be prepared
> successfully as correspondence secretaries, for they
> lack competencies involved in written communications.
> If an organization adopts word processing, successful
> stenographers and secretaries are usually selected as
> key people to establish the new system. (41:203)

In an article entitled, "Word Processing: More a Matter of Skills
Than Equipment," Moody and Matthews (38:204-206) comment that business
teachers should not rush blindly into drastic changes without careful
assessment of the changes as they relate to the needs of the community
and students.

Business people, too, do not all believe that schools should teach
word processing. Referring to a seminar involving word processing
center supervisors, managers, and other management personnel,
Christensen (14:34) reported

> One speaker said her table of participants did not
> believe schools were the place to look for word processing

employees. The reasoning ran along these lines. Companies
prefer to train their own employees in their own applica-
tions. Schools should teach language and punctuation skills
and perfect people's English abilities.

SUMMARY

There seems to be little agreement as to what should be taught

in the business education curriculum regarding office procedures.

Reputable periodicals in the field of business, such as Administrative

Management, Forbes, and Industry Week, publish articles indicating

that word processing is the current trend; traditional multi-purpose,

shorthand-writing secretaries are becoming obsolete; and new concepts

in office efficiency are being felt in business in various ways.

Authorities acknowledge, however, that there is resistance to change

and new concepts have not yet had much effect on smaller organizations.

There seems to be no doubt that changes are being made in some offices

and that new, more sophisticated machines are being developed and used

by many organizations.

Although there have been several research studies, these studies

have not provided definitive answers to questions about what schools

should be teaching now. It might be pointed out that in no case was

research carried out by surveying a great number of organizations.

Kennedy surveyed forty-two organizations while Lee surveyed only ten.

Even when several individuals were surveyed, if those individuals

were working in the same organization, situations unique to a parti-

cular company might make substantial changes in the data. It seems

questionable that conclusions drawn from a study of a relatively small

number of organizations in one metropolitan area could necessarily

apply to business education in general. In all of these studies the names of the organizations surveyed were obtained from vendors, the International Word Processing Association, or other sources which might tend to favor a particular point of view.

Summarizing the research findings, all of the studies seemed to indicate that word processing was influencing procedures in many offices and that business education curricula should reflect that fact. Although training on magnetic-media typewriters and training in machine transcription were deemed to be needed, greater emphasis was placed on such things as spelling, punctuation, and English grammar in all studies. Proper attitudes were also stressed. The recommendation was made that concepts of word processing and information on employment opportunities should be included in typewriting and secretarial classes. Two of the studies noted that, although they had been designed to reflect differences in the attitudes, skills, and work of correspondence and administrative secretaries, they were unable to find enough administrative secretaries to provide the best data; a majority of the organizations had correspondence secretaries but had not implemented the administrative secretary concept.

In some cases, educational institutions have reacted to changes in office procedures and/or the literature and research about word processing by authorities in business and education by designing entirely new courses of study, incorporating the concepts of word processing and training on the hardware used in word processing centers.

Other authorities feel that word processing is not causing
radical changes in the world of secretaries, that training in shorthand
and traditional secretarial procedures is still important, and that
employers are concerned more with training in the mechanics of com-
munications--vocabulary, grammar, spelling, and punctuation--and
business attitudes than they are in training on particular machines.

Chapter 3

DESIGN OF THE STUDY

This study was undertaken for the purpose of determining whether the concept of word processing had been implemented by a considerable number of organizations in the Omaha metropolitan area; if so, how had this adoption affected requirements for office personnel and how should schools react to such changing requirements.

To obtain the data required, the study was divided into two distinct parts: the first included a survey of the businesses in the Omaha metropolitan area by means of a questionnaire, while the second consisted of in-depth interviews with representatives of businesses using word processing.

PROCEDURES

The survey portion of the study was designed to determine if a considerable number of businesses in the Omaha metropolitan area have implemented the concept of word processing or plan to do so in the near future. Information on how businesses were defining the term, "word processing," was also needed. To obtain this information, a survey, conducted by means of a written questionnaire, was made of businesses in the area by mail, focusing on the extent to which word processing had been adopted.

Because there are approximately 9,200 businesses in the Omaha

metropolitan area, it was impossible to survey all of them. A

stratified random sampling of 300 businesses was surveyed. This initial

survey provided valuable information about a large number of organi-

zations--their understanding of word processing, their equipment, and

whether they were using word processing.

To learn in detail about word processing operations in Omaha--how

organizations that had word processing had obtained trained employees,

how their word processing personnel functioned, and the thinking of

business people about the schools' roles in the training of personnel--

additional information was needed. The most useful information could

be obtained by personal interviews with representatives of those

organizations that did have word processing; this information would

probably be more accurate and complete than information which might

have been obtained by further contact by mail.

Therefore, in the second phase of the study, interviews were held

with representatives of the organizations that had word processing if

arrangements could be made for the interviews.

SOURCE OF DATA

The source of the data for both parts of the study was the Omaha –

Council Bluffs business community.

Survey

Information provided by the Greater Omaha Chamber of Commerce

indicated that there are approximately 9,200 businesses in the Omaha

metropolitan area. This was the population to be surveyed.

These businesses were divided into three groups: those employing
fewer than twenty-five workers were considered small; those employing
25 to 300 were considered middle-sized; and those employing over 300
workers were considered large. A random sampling of 100 organizations
in each group was surveyed. Appendix G lists the names and addresses
of the organizations surveyed.

Interviews

A smaller sampling of the same population was questioned in the
second phase. When the results were received from the survey, the
responses were divided into two categories--those who had implemented
word processing or planned to do so and who were willing to be inter-
viewed, and those who had implemented word processing but did not wish
to be interviewed or who had not implemented word processing.
Representatives from all the companies that had implemented word
processing and indicated willingness to be interviewed were contacted;
in a few cases it proved to be impossible to arrange interviews,
because of changes in personnel or heavy work loads which did not
permit time for interviews. However, thirty-four interviews were
held, which provided the data needed for this part of the study. The
names and addresses of those interviewed are listed in Appendix H.
No attempt was made to categorize the executives by the size or type
of organization which they represented.

DESCRIPTION OF THE DATA-GATHERING INSTRUMENTS

Two different types of data-gathering instruments were used in
the two parts of the study.

Survey

A one-page questionnaire entitled the Word Processing Survey was designed to determine the extent to which word processing was understood and used in a variety of organizations—small, middle-sized, and large—representing many businesses, industries, and professions. It contained eleven questions which asked for specific information about the organizations' equipment and procedures and their willingness to provide additional information in an interview.

Questions were also asked about the brand of equipment used, since many studies have shown that the best training can be provided if the students learn on the equipment they are most likely to use on the job. The questionnaire asked for information about how the organizations' procedures for handling written communications had changed in the last ten years. If those procedures had changed a great deal but the organization had not implemented word processing, that information would be valuable in planning business education curricula. Information was requested about the number of people performing secretarial or clerical work; since a variety of types of organizations was included in the survey, the number of employees of the organization might be deceptive as to its needs for people to handle written communications—the manufacturer with 295 factory workers and 10 people in the office had different needs from the company whose entire staff was concerned with communication of information.

In the development of this Word Processing Survey, various authorities were consulted. Earlier research was studied as to how the researchers' data-gathering instruments might be adapted for use in

this study. Four university professors, a State Supervisor of Business

Education, a city supervisor of business education, and an instructor

in a community college, as well as several business people, were

consulted. Many of these people made helpful suggestions.

The Word Processing Survey was designed to be sent to the wide

variety of business people included in the random sampling. For that

reason the terminology was kept as simple as possible. The order of the

questions was also planned so that the questions that might be somewhat

less concrete, and, therefore, possibly more difficult to answer, were

placed near the end. For instance, the question regarding the number

of people working in secretarial or clerical jobs is near the end, even

though it is of importance to this study only as it relates to the

implementation of word processing.

Interviews

The interview questioning was divided into two major sections,

following the format of the Business Survey described below.

The Business Survey (Appendix D) was designed to serve as a

basis for interviews with representatives of organizations that had

implemented word processing. In Part 1, information on how the

organization was defining word processing was sought. Questions about

how long the organization had had word processing, about their equip-

ment, and how well satisfied with word processing they were were

included. An attempt was made to determine if businesses had

correspondence secretaries, administrative secretaries, and/or

traditional secretaries, percentages of traditional secretaries

compared to word processing personnel, and how much shorthand was used. Data regarding the training, experience, and personality differences of personnel were requested.

In the second part of the Business Survey the representatives were asked to categorize various qualifications for entry-level employees as to their importance--great, secondary, or lesser or little. These business people were asked how important various skills, knowledges, and attitudes were for the schools' curriculum. The representatives were asked if schools should teach word processing and, if yes, what facets at what level or levels for how long.

As with the Word Processing Survey, the Business Survey was reviewed in rough draft form by a number of educators and also by representatives of three word processing equipment vendors and two word processing supervisors (in organizations not included in the survey sampling).

The completed Business Surveys served as the basis for the interviews. If the person being interviewed had any questions, they were answered. In some cases the term "correspondence secretary" needed to be explained since other terms were often used for personnel performing this function. If production standards were used, the author asked for explanation about how these standards were applied.

Not all questions were answered by all the business people. No attempt was made to obtain answers when they were not given readily.

METHODS OF GATHERING DATA

To gather the data needed, the Word Processing Surveys were mailed and the interviews held as described.

Survey

Since it was not feasible to contact all of the businesses in the Omaha metropolitan area, and because it was judged that a sampling of 300 organizations of various sizes would provide meaningful data, a stratified random sampling was used--100 large, 100 middle-sized, and 100 small firms being surveyed.

The Directory of Major Employers, 1976 edition, published by the Greater Omaha Chamber of Commerce, lists something over a thousand large and middle-sized employers, categorized in various ways including number of employees. This was used as the source of the names and addresses of the large and middle-sized organizations; it also provided the names of the chief executive officers, to whom the surveys were directed. Since there were actually 98 employers of over 300 employees, all of these organizations were surveyed. The Directory contains slightly over 100 pages of listings, so the second name on each page was arbitrarily selected to receive the survey questionnaire; if that name was an employer of over 300, the next name following in the middle-sized group was surveyed. This procedure was followed until 102 organizations had been selected.

To obtain a random sampling of businesses employing fewer than twenty-five people, the Yellow Pages of the current editions of the Omaha and Council Bluffs telephone directories were used. There were 915 pages of listings in these directories so the third name on every ninth page was checked against the list of major employers; if it was in the Omaha metropolitan area and was not listed in the Directory, it was selected. If the third listing was not in the Omaha

metropolitan area or was a large or middle-sized organization (i.e.

listed in the <u>Directory of Major Employers</u>), then the fourth name was

selected, and so forth.

Whenever possible, the questionnaire was sent to the chief execu-

tive officer of the organization by name, with the hope that the sur-

vey would be passed on to the proper person to provide the information,

if the facts were not known to the recipient.

A copy of the Word Processing Survey, which has already been

referred to in Chapter 1, is included as Appendix A. This was mailed

with the cover letter, Appendix B, on November 15, 1977, to the 300

organizations listed in Appendix G. Reminders (Appendix F) were sent

on January 20, 1978, to those who had not responded. The responses

were coded and processed by the computer facilities of the University

of Nebraska at Omaha on March 10, 1978.

Interviews

After the Word Processing Surveys were returned, those organiza-

tions indicating that they had implemented word processing or planned

to do so in the near future and were willing to discuss the subject

further in an interview were contacted. The individual named in the

returned Word Processing Survey was called and whenever possible,

an appointment was made for the interview. Letters confirming the

appointments (Appendix D) enclosed a copy of the Business Survey

(Appendix C), which was to be completed prior to the interview; this

Business Survey was to serve as the basis for the interviews.

In some cases it was not possible to arrange an interview; the

appropriate person was too busy to take time for an interview, that

person was on an extended vacation or was working temporarily at another location, or there had been a change in top management and the personnel of the organization did not feel that an interview regarding procedures was appropriate at that time.

Appointments were made for thirty-four interviews; a list of the names and addresses of the executives interviewed is included. (Appendix H)

The interviews were held in most cases in the offices of the executives being interviewed. At the beginning of the interviews, the executives were asked for permission to record the interviews on a small portable tape recorder. There was no objection to this procedure. Since many of these people were accustomed to dictating machines, it was felt that the recorder would produce no important differences in the responses; the information was not generally of a personal or confidential nature. In most cases, it seemed that the person being interviewed forgot about the recorder before long.

Usually the Business Surveys had been completed prior to the interviews; however, in several instances this was not the case. A few of the business representatives filled in the Surveys during the interviews. Others gave them to the author to complete based on the information recorded on tape. In four cases the business representatives indicated that they would mail either all or the incompleted part of the form later; two of these were ultimately received. In two cases the representatives did not have time to complete the form and the information provided in the interview was not sufficient for the author to complete it for them. In total, thirty forms were completed.

The interviews took place in February and March of 1978. The responses to the Business Surveys were coded and processed by the computer facilities of the University of Nebraska at Omaha on April 14, 1978.

SUMMARY

The data needed for this study were obtained by mailing a short questionnaire to a stratified random sampling of business organizations in the Omaha metropolitan area; representatives of thirty-four of the organizations returning the questionnaire stating that they had word processing and were willing to provide further information were interviewed.

The Directory of Major Employers of the Greater Omaha Chamber of Commerce and the Yellow Pages of the Omaha and Council Bluffs telephone books provided the names and addresses of the business organizations. The data-gathering instruments were designed specifically to provide the information needed. The data were gathered and processed in 1977 and 1978.

Chapter 4

PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to determine how the introduction

of word processing in businesses in the Omaha metropolitan area had

affected, will, and should affect the business education curricula of

the schools in the area. This chapter is divided into two major

sections. The first section includes the data gathered in the survey

of 300 business organizations. The second section includes the

information obtained in the interviews with executives of business

organizations having word processing.

DATA GATHERED FROM SURVEYS

This section contains the data from the Word Processing Survey,

which was sent to a stratified random sampling of 300 business

organizations in the Omaha - Council Bluffs metropolitan area.

Included in this section are data concerning the number of Word

Processing Survey forms returned, recognition of the term "word

processing," implementation of word processing, equipment in use,

changes in procedures, willingness to be interviewed, and a summary of

the findings.

Number of Returned Surveys

A total of 221 (73.7 percent) of the 300 questionnaires sent to

businesses were returned. These represented 84 percent of those

sent to large organizations, 72 percent of those sent to middle-sized

42

organizations, and 63 percent of those sent to small firms. (Three

surveys were returned without identification indicating the size of the

organization responding.) The number and percentage of returns by size

of business are presented in Table I.

Table I

Number and Percentages of Responses to the Word Processing Survey
Classified by Size of Organization

	Large	Mid-size	Small	Total
Number responding	82	73	63	218
Percentages	84	72	63	73

Not all of the respondents answered every question, so the totals

reported do not equal 221. In two cases the organization returned a

blank survey form with a letter indicating it was company policy not to

respond to requests for information of this sort.

Recognition of the Term Word Processing

If the respondent was to reply to the survey properly, he should

be familiar with the term "word processing." Also valuable informa-

tion could be obtained by determining how extensively the term was

understood. Therefore, the first survey question was, "Are you

familiar with the term, 'word processing?'" According to the re-

sponses, the term was fairly widely recognized. Nearly 75 percent

of those returning surveys indicated familiarity with the term.

However, in view of the many articles about word processing—in

publications such as <u>Business Week</u>, <u>Time</u>, and <u>Fortune</u>, as well as Administrative Management, <u>The Office</u>, and <u>Modern Office Procedures</u>—it is a little surprising that nearly 10 percent of the chief executive officers of organizations employing over 300 people were <u>unfamiliar</u> with the term. Table II contains information about the responses to this question, broken down by size of the organization surveyed.

Table II

Extent of Familiarity with the Term, Word Processing,
Reported by Size of Organization

Response	Large		Mid-Size		Small		Total	
	N	%	N	%	N	%	N	%
Yes	73	89.0	53	72.6	33	52.4	159	72.9
No	8	9.8	17	23.3	28	44.4	53	24.3
No response	1	1.2	3	4.1	2	3.2	6	2.8
Totals	82	100.0	73	100.0	63	100.0	218	100.0

<u>Implementing of Word Processing</u>

The next question (number 2), "Has your organization implemented word processing?" was the most important in the survey. Of the 211 organizations that answered the question, nearly 30 percent replied affirmatively. Almost 50 percent of the 82 large organizations that responded to the question said they had implemented word processing. Not surprisingly, a smaller percentage of the middle-sized organizations and a still smaller percentage of the small organizations had word processing. The responses to this question are presented in Table III.

When the implementation of word processing is compared with the number of people in the organizations performing work generally classified as clerical or secretarial, again a preponderence of those with larger clerical staffs were those using word processing most extensively. Table IV shows the number of firms having word processing compared with the size of the clerical staffs. Not all of the organizations reported as to the number of people performing clerical or secretarial work.

In answer to Question 3, whether the organization planned to incorporate the concept of word processing in the near future, only four organizations indicated that they did plan to do so--three of them large and one small.

Equipment in Use

In the minds of some people word processing is synonymous with office machinery. For that reason it was appropriate to find out what equipment was being used.

Automatic typewriters. The question (number 4) was asked, therefore, "Do you have automatic typewriters in your company?" Again, as might be expected, a greater percentage of large organizations that replied to the question answered in the affirmative than did the percentage of middle-sized or small organizations. Table V shows a breakdown of the replies to this question. It should be noted that many organizations which did not have word processing responded with information about their equipment.

Because of the value to educators in the possible selection of equipment for school programs, the organizations were also asked to

Table III

Extent to Which Organizations Had Implemented Word Processing
by Size of Organization

Response	Large N	Large %	Mid-size N	Mid-size %	Small N	Small %	Total N	Total %
Yes	39	47.6	16	21.9	7	11.1	62	28.4
No	42	51.2	54	74.0	53	84.1	149	68.4
No response	1	1.2	3	4.1	3	4.8	7	3.2
Totals	82	100.0	73	100.0	63	100.0	218	100.0

Table IV

Number of Persons Performing Secretarial or Clerical
Work in Organizations Having Word Processing

Size of Secretarial Staff					
0-2	3-10	11-25	26-50	51 and Over	Total
6	11	12	12	14	55

indicate the models of the equipment used (Question 5). For automatic

typewriters, IBM was reported as a supplier on over 82 percent of the

responses. Redactron supplied equipment to a little over 12 percent

of those responding, and Olivetti about 8 percent. It is noted that,

although only four organizations (5.5 percent) reported using text-

editing computer interfaces, this response was the fourth most common.

Other vendors were really unimportant as far as the organizations re-

sponding reported. Table VI shows the breakdown of the models reported

by the organizations responding.

Machine transcription equipment. Because of the differences in the

costs of automatic typewriters and the costs of machine transcription

equipment (several thousand dollars versus a few hundred or less), it

is not surprising that a larger percentage of organizations reported

having the latter type of equipment: a total of 88 organizations

reported having machine transcription equipment, whereas 117 indicated

that they did not. Of the large organizations responding to the

question, 68.5 percent said they did use this type of equipment;

smaller percentages of mid-sized and small organizations responded

"Yes" to this question. Table VII shows the replies to this question.

As with the automatic typewriters, IBM was indicated as the vendor

on the greatest number of responses, with 41.3 percent. Norelco also

had an important share of this market, with 37.5 percent. Dictaphone,

with 21.3 percent, and Lanier, with 16.3 percent, also shared

substantially as suppliers, according to the responses. Data about

the equipment used by the responding organizations is included in

Table VIII and is reported by size of organizations.

Table V

Numbers and Percentages of Responses
Having Automatic Typewriters

Responses	Large N	Large %	Mid-size N	Mid-size %	Small N	Small %	Total N	Total %
Yes	48	58.5	15	20.5	12	19.0	75	34.4
No	31	37.8	54	74.0	48	76.2	133	61.0
No response	3	3.7	4	5.5	3	4.8	10	4.6
Totals	82	100.0	73	100.0	63	100.0	218	100.0

Table VI

Models of Automatic Typewriters Used by Firms Responding
to the Question, by Size of Organization

Model	Large	Mid-size	Small	Total
CPT	1	0	0	1
ABDick	1	0	0	1
IBM	43	8	9	60
Olivetti	5	0	1	6
Redactron	6	3	0	9
Trendata	1	0	0	1
Wang	0	1	0	1
Xerox	1	0	0	1
Text-editing Computer	3	1	0	4
Total	61	13	10	84

Note: These totals represent more than the totals of the numbers of organizations reporting use of automatic typewriters because some organizations used more than one model.

Table VII

Number and Percentages of Organizations Having
Machine Transcription Equipment

Responses	Large		Mid-size		Small		Total	
	N	%	N	%	N	%	N	%
Yes	54	65.8	27	37.0	7	11.1	88	40.4
No	25	30.5	40	54.8	52	82.5	117	53.7
No response	3	3.7	6	8.2	4	6.3	13	5.9
Totals	82	100.0	73	100.0	63	100.0	218	100.0

Table VIII

Models of Machine Transcription Equipment Used by Firms Responding
to the Question, by Size of Organization

Model	Large	Mid-size	Small	Total
Dictaphone	10	5	2	17
IBM	26	4	3	33
Lanier	10	2	1	13
Norelco	19	9	2	30
Sony	4	2	0	6
Others	1	4	0	5
Total	70	26	8	104

Note: These totals represent more than the totals of the numbers of
organizations reporting use of machine transcription equipment because
some organizations reported using more than one brand.

Relationship of equipment to word processing. According to the responses of the organizations sampled in this survey, it is not necessary to have automated equipment to have word processing. Ten of the organizations that indicated they did have word processing did not have machine transcription equipment. Twelve organizations that said they had word processing did not have automatic typewriters. Furthermore, four organizations had neither automatic typewriters nor machine transcription equipment but indicated that they had implemented word processing.

The number of organizations that had automatic typewriters and machine transcription equipment was substantially greater than those indicating that they had implemented word processing, with the exception that seven small organizations had machine transcription equipment and seven also indicated that they had implemented word processing. Figure 1 shows the relationship of the percentages of organizations having equipment and having implemented word processing.

Changes in Procedures

Since the introduction of the word processing concept was supposed to represent a considerable change in an organization's procedures for handling written communications, it was of interest to find out whether or not organizations had made great changes in these procedures. In all sizes of the organizations, little change was more commonly reported than extensive change. In fact, more than three times as many organizations had made little change as had made extensive changes in procedures.
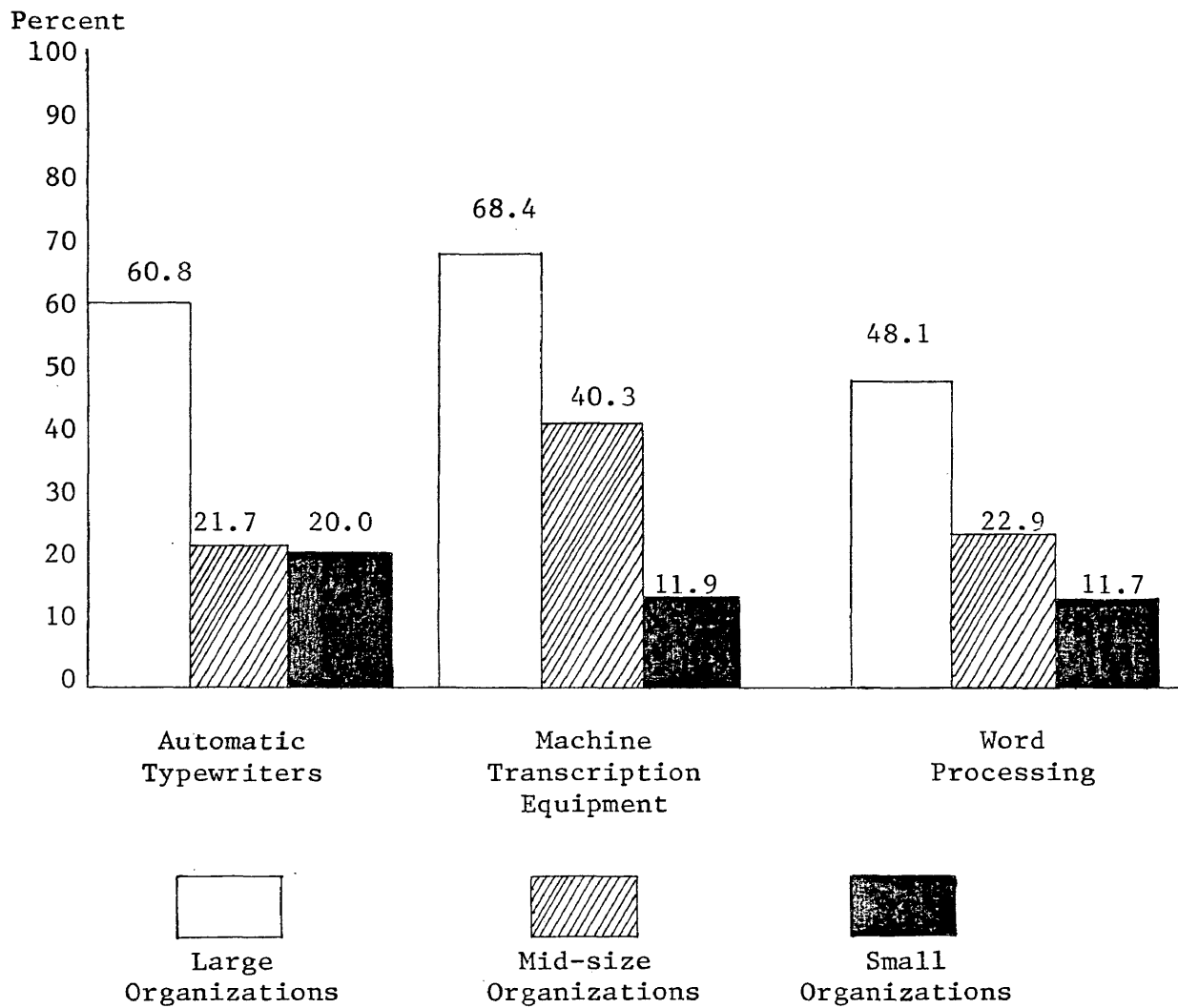
Figure 1

Percentages of Organizations Having Automatic Typewriters
Machine-transcription Equipment,
and Word Processing

It is not surprising that a greater percentage of the large organizations had changed procedures extensively since those organizations would have more people to study such changed. Twenty-four large organizations reported some change while 20 reported little change, 20 considerable change and only 16 reported extensive change. Among the small organizations, only three indicated that procedures had changed extensively, and 41 reported little change. In the mid-sized organizations little change was most common, but those organizations as a group had changed somewhat more than the small organizations. Table IX shows the responses indicating how much the organizations' procedures for handling written communications had changed in the last ten years, reported by the size of the organizations.

Although the adoption of word processing might represent a substantial change in an organization's procedures for handling written communications, seven organizations that had implemented the concept reported little change in procedures; six organizations reported extensive change in the handling of written communications but indicated no implementation of word processing. Twenty-one organizations that had word processing reported extensive changes in procedures, while 18 indicated considerable change and 16, some change. Of those which had not implemented word processing 81 had made little change in procedures; fewer had changed some and still fewer, considerable.

Table X shows the relationship of the organizations that had implemented word processing with the extent their procedures for handling written communications had changed in the last ten years.

Table IX

Extent to Which Procedures for Handling Written Communications
Had Changed in the Last Ten Years
by Size of Organization[1]

Size	Little N	%	Some N	%	Considerably N	%	Extensively N	%	Total
Large	20	25.0	24	30.0	20	25.0	16	20.0	80
Mid-size	27	39.1	20	29.0	14	20.3	8	11.6	69
Small	41	70.7	13	22.4	1	1.7	3	5.2	58
Totals	88	42.5	57	27.5	35	16.9	27	13.1	207

1. Because of the wide variation possible in the educational
levels of the recipients of the Word Processing Survey, the term,
"Quite a Bit," was used on the form rather than considerably," and
the term, "A Great Deal," was used rather than "extensively."

Table X

Relationship of Responses Regarding Implementation of Word Processing
to Changes in Procedures for Handling Written Communications

Implementation of Word Processing	Little	Some	Considerably	Extensively	Total
Yes	7	16	18	21	62
No	81	41	17	6	145
Totals	88	57	35	27	207

(Few organizations had implemented word processing more than ten years before the study was made.)

Willing to Be Interviewed

The organizations in the Omaha metropolitan area were generally very cooperative in responding to the questionnaire. As indicated previously, nearly three-quarters of the random sampling of organizations of all sizes returned the Survey forms. In response to Question 10, "Would you be willing to answer another questionnaire and discuss the subject further in an interview?" 82 organizations responded "Yes," while 131 responded "No." As can be seen in Table XI, a larger percentage of the organizations employing over 300 were agreeable to the interviews; more than half of these organizations indicated willingness to be interviewed. This is not surprising in view of the fact that these organizations often had a manager or supervisor who could take the time for the interview, whereas the employees of the smaller organizations could not take time from their regular duties.

Those organizations that had implemented word processing were generally willing to take part in an interview. Over two-thirds of the reponses indicated willingness to be interviewed by those who had implemented word processing. Fewer than one-third of those who had not implemented word processing were willing to be interviewed. In several cases, where the organizations did not have word processing, a note was included indicating that the respondent felt an interview would serve no useful purpose. Table XII shows the relationship of those having word processing with the willingness to be interviewed.

Table XI

Willingness to Be Interviewed, Reported by
Size of Organization

Responses	Large		Mid-size		Small		Total	
	N	%	N	%	N	%	N	%
Yes	44	53.7	26	35.6	12	19.0	82	37.6
No	33	40.2	47	64.4	51	81.0	131	60.1
No response	5	6.1	0	0.0	0	0.0	5	2.3
Totals	82	100.0	73	100.0	63	100.0	218	100.0

Table XII

Organizations Having Word Processing Compared with
Willingness to Be Interviewed

	Willing to Be Interviewed	Not Willing to Be Interviewed	Total
Have Word Processing	41	17	58
Do Not Have Word Processing	41	107	148
Totals	82	124	206

INFORMATION OBTAINED FROM INTERVIEWS

For the study to help schools determine how the adoption of word processing should affect their business education programs, the research needed to provide further details about word processing equipment, procedures, and personnel; interviews with organizations that had word processing provided additional information. This section will present the data developed in the second part of the study, the information from these interviews, including the responses to the questions on the Business Survey (Appendix H), as well as other information from the interviews. The interviews are described, the responses to the Business Surveys are reported, and general comments regarding information obtained in the interviews are included.

Introduction

After the Word Processing Surveys returned by 221 of the 300 organizations to which they had been sent were received, responses to Question 2, "Has your organization implemented word processing?" and Question 10, "Would you be willing to answer another questionnaire and discuss subject further in an interview?" were studied. Forty-one organizations responded "Yes" to both questions and were selected to be interviewed. Whenever possible, contact was made with the executive named in the returned Word Processing Survey and an appointment made for an interview.

In 34 cases out of the possible 41, appointments were made and interviews conducted. The 34 executives with whom appointments for

interviews were made are listed in Appendix H. Letters confirming the
appointments were sent to the executives, together with copies of the
Business Survey, Appendix D, which was to be completed prior to the
interviews and which was to serve as the basis for the interviews.

The Interviews

In February and March of 1978, 34 interviews were held with
executives of business organizations in the Omaha area that indicated
they had implemented word processing.

Parties to the interviews. All of the 34 interviews described were
conducted by the researcher. In four cases the executive interviewed
was a vice president or president and/or owner of the organization.
In ten cases the supervisor of the word processing center was
interviewed. The other executives were personnel directors, business
managers, department heads, a campus director, and an assistant
superintendent. In five instances, arrangements had been made so
that several people--such as the office manager and lead word
processing operator, the vice president and word processing super-
visors, or an executive and other word processing personnel--took part
in the interviews.

Interview settings. In most cases the interviews were held in the
offices of the executives being interviewed. In some instances,
especially when several people were to take part in the interviews, a
conference room or other area was used for the purpose.

As reported earlier, the interviews were recorded on tape by
using a small tape recorder which was activated at the beginning of the

interviews. This recorder was turned off after the interview questioning was finished. In several cases, the executives asked the interviewer's opinions on certain questions. These questions were not answered until after the recorded interviews to avoid influencing the ideas of the business executives.

Business Survey Responses

Although interviews were held with executives of 34 organizations only 30 Business Survey forms were completed. In one case, the executive reported that, although their organization had had word processing, i.e. automatic typewriters, they had ceased to use them: the officers' secretaries were able to keep up with the correspondence using ordinary typewriters and were performing many other duties so that those secretaries were needed for the operation of the business. In another instance the executive reported that they did not actually have word processing then but were planning to implement the concept; he did not feel that he could complete the Business Survey at that time. As indicated previously, in two cases the executives indicated that they would complete and return the Business Surveys by mail but apparently did not do so as they were never received; during the interviews not enough information was given to complete the Surveys for these executives. It did not seem appropriate to continue to try to obtain this information if reminders were ignored.

In a number of cases, although some information was given, not all the Survey questions were answered or answered in a usable form. In some cases the questions were not applicable to the particular

organization or the executive had been unable to find the information.

In other instances, in spite of the directions, the executives

indicated that all or almost all of the entry-level qualifications

listed in Questions 1 and 2 of Part 2 were of great importance--and

that all of the knowledges, skills, and attitudes listed in Question 3

of Part 2 were of first or secondary importance. Such answers did not

provide usable information.

Included first is information obtained in Part 1 of the Business

Survey, the part dealing with the business organizations' experiences

with word processing--their equipment, their personnel, and their pro-

cedures. The information obtained in Part 2 of the Business Survey

follows; included there is information about what qualifications these

executives seek in entry-level word processing personnel and their

ideas about the part schools should have in the preparation of such

employees. The order of presentation of the data follows the order of

the questions on the Business Survey form.

Definitions of "word processing." In no two cases were identical

definitions given for the term, in response to Question 1, "Briefly,

how does your organization define 'word processing?'" However, the

answers fell into three major categories: (1) those who defined word

processing in terms of machines alone; (2) those who defined word

processing as a systematizing of business communications, using modern

equipment and procedures; and (3) those who defined word processing

as the processing of words with no reference to changes in

equipment or procedures which might have been made in recent

years. Approximately a third of the respondents' answers would fall

under each category. Among those defining word processing in terms of equipment alone, more than half referred to use of automatic typewriters only. One executive defined the term as including not only the systematizing of business communications with modern equipment and procedures but also included all other aspects of administrative support as well—records management, micrographics, photo-composition, reprographics, and so on. Table XIII shows the numbers and percentages of organizations reporting various definitions of word processing. In some cases the terminology varied—some referred to "magnetic-media typewriters" instead of "automatic typewriters" or to specific brands—but the intent was the same.

It was noted that in the case of the past response—word processing is processing words—the executives sometimes indicated that they had had steno pools for forty years or that their organization had been processing words since 1920.

Table XIII

Classifications of Definitions of Word Processing
as Reported by Those Interviewed

Definition of Word Processing	Number	Percentage
Use of automatic typewriters	5	16.7
Use of machine transcription	1	3.3
Use of automatic typewriters and machine transcription	3	10.0
Systematizing business communications using modern machines and procedures	11	36.7
Processing words	10	33.3
Total	30	100.0

<u>Word processing equipment and installations</u>. In the case of one organization, 1964 was indicated as the year in which word processing was installed, in response to Question 2, "When did you originally install your word processing equipment and/or concepts?" This organization defined word processing as the use of machine transcription. In the other cases, the year frequently referred to the installation of magnetic-media typewriters. The three 11-year-old installations were the first implementation of word processing as defined in this study. The greatest number of word processing installations in any one year--five--was six years old, with the four 4-year-old ones and the four 1-year-old installations being the next most frequently reported age of installations. No new installations were reported three years prior to the study.

Table XIV shows the age of the word processing installations as reported by the 29 executives who supplied that information. The median age of the installations was 6.8 years, and trends either toward increased or decreased numbers of new installations do not appear.

All of the executives answered Question 3 about changing installations. Except for the organizations that had not implemented word processing until 1977 or 1978, all but one indicated that they had added additional equipment; and one company that had installed word processing in 1977 had already upgraded the equipment. Twenty-six organizations (86.7 percent) answered yes to this question while four (13.3 percent) answered no. In some cases they had merely added additional equipment of the same kind, such as adding another automatic typewriter or transcriber; in other instances they had switched

Table XIV

Age of Word Processing Installations

Age of Installation in Years	Number of Organizations
14	1
11	3
10	1
9	1
8	3
7	2
6	5
5	3
4	4
2	1
1	4
0	1

to a more sophisticated system, such as from hard-copy typewriters to computer interface or CRT display equipment.

A majority of the organizations did not find that downtime was a problem, according to the executives interviewed (Question 4). The automatic typewriters seemed to give slightly more trouble than the dictating equipment or transcription equipment. Table XV shows how this question was answered.

When the answers to the question were explained, these explanations usually indicated that downtime reduced productivity. The word processing operators did not usually have other duties which they could perform if the machines would not function.

The correspondence secretary function. Although a majority of the 30 executives (83.3 percent) reported that their organizations had correspondence secretaries (Question 5), in most cases that term was not their designation but was their function. In only two cases was "correspondence secretary" the title given to these workers. Six organizations reported that these employees were called word processing operators or word processing specialists, and five indicated that these personnel were designated as secretaries.

In conversations with some of the executives it became apparent that although they indicated that their organizations had word processing, their procedures differed little from the use of a typing or steno pool with sophisticated equipment. Neither the duties performed nor the thinking of management had changed. It is not surprising, therefore, that these personnel were often designated as typists or

Table XV

Responses Regarding Downtime Being a Problem
on Various Types of Equipment

Response	Automatic Typewriters	%	Dictation Equipment	%	Transcription Equipment	%	Total
Yes	9	31.0	6	20.7	6	20.7	21
No	20	69.0	23	79.3	23	79.3	66
Totals	29	100.0	29	100.0	29	100.0	87

transcriptionists. Table XVI shows the terminology used for persons who perform this function.

In a majority of the organizations (16 - 64 percent of the 25 executives answering Question 6), the function of correspondence secretary (however designated) might be filled by entry-level employees. Not all of the correspondence secretaries in those 16 organizations were entry-level, but the position was open to entry-level personnel. In nine organizations (35 percent of those responding to the question) the job was not open to such personnel.

Almost three-quarters of the organizations had correspondence secretaries who had been trained by equipment vendors, and over 60 percent had such personnel who had been trained by the organization itself. Schools of various types together had trained personnel in slightly over 50 percent of the organizations, and companies other than the one where the correspondence secretary currently worked had trained personnel in 27.6 percent of the organizations.

Table XVII shows where the correspondence secretaries had received their initial training in word processing (Question 7). These numbers and percentages are reported by organizations (29 supplied information) rather than individuals; and, therefore, the totals add up to more than 100 percent since the employees of one organization might have received training at more than one place.

Twenty-five organizations (86.2 percent of the 29 responding) indicated that the training was continued (Question 8). The sources of the continued training (Question 9) were the organizations themselves (18 - 62.1 percent of the 29 responding), the equipment

Table XVI

Term Used to Designate Person Functioning
as a Correspondence Secretary

Term	Number	Percentage
Correspondence secretary	2	8
Word processing operator (or specialist)	6	24
Secretary	5	20
Transcriptionist/typist	11	44
Undesignated or other	1	4
Total	25	100

Table XVII

Sources of Training Initially in Word Processing
of Correspondence Secretaries
Reported by Organizations

Training Source	Number	Percentage
Secondary school	6	20.7
Business school	6	20.7
Community college	3	10.3
Equipment vendor	18	62.1
Organization	21	72.4
Another company	8	27.6

vendors (10 - 34.5 percent), and another organization (1 - 3.4 percent of the responses).

Concerning whether the correspondence secretaries took shorthand (Question 10), 20 organizations reported that at least some, if not all, of them did (69.0 percent), while nine (31.0 percent) reported that none did and one executive did not supply that information. However, of the 20 that indicated that some of their correspondence secretaries did take shorthand, only nine (45 percent) indicated that it was used on the job (Question 11), while 11 (55 percent) indicated that shorthand was not used on the job.

Nineteen (86.4 percent of the 22 responding to Question 12) indicated that training and/or experience as traditional secretaries was helpful in becoming good correspondence secretaries; three (13.6 percent) indicated that such training had not helped, that it had proved to be a detriment. Eight executives did not respond.

Those who indicated that training and/or experience had helped usually explained that training in setups, vocabulary, and procedures was helpful, and also they often indicated that any training and/or experience could be helpful, whether it related directly to the word processing job or not.

Those who responded "No" indicated that their organizations had found that the training and/or experience as traditional secretaries tended to cause the employees to be dissatisfied with their word processing work—to feel that they were being downgraded or to miss some of the variety and lack of pressure of traditional secretarial work. Organizations that had found traditional training and/or

experience generally helpful also had discovered that there were some

negative aspects to the traditional training and/or experience for

correspondence secretaries and that resistance to work in word

processing by trained or experienced traditional secretaries was found.

All of the 30 executives that completed the Business Survey form

responded to the question, "Do you have a minimum typewriting speed

for entry-level employees who might work in your word processing opera-

tions?" with 28 (93.3 percent) indicating that they did have minimum

typewriting speed requirements. These minimum requirements varied

from 40 words per minute to 80 words per minute. Table XVIII gives

the numbers and percentages of the minimum speeds reported (Question 14).

Three of the organizations reported that they had minimum speed

requirements but did not state what they were. One executive reported

that he "listened to an applicant typing" and if it "sounded fast,"

it was considered to meet the speed requirement.

The mean average of these minimum requirements for typewriting

speed would have been slightly over 55 words per minute, although no

organization had 55 words per minute as the minimum requirement. Of

these responses, nearly half of the minimum speed requirements could be

satisfied by a speed of 50 words per minute, and over three-quarters

would accept minimum typewriting speeds of 60 words per minute or under.

Half of the 26 organizations responding to Question 15, regarding

whether the organization had a minimum standard for accuracy, answered

"yes" (13) and half replied "no." These were many different types of

answers given as to what the accuracy standards were, if used (Question

16). Three executives indicated 85 percent accuracy or 90 percent

Table XVIII

Minimum Typewriting Speed Requirements for Entry-Level
Personnel Who Might Work in Word Processing

Speed (In Words Per Minute)	Number	Percentage
40	3	12
45	4	16
50	5	20
60	7	28
65	4	16
70	1	4
80	1	4
Total	25	100

accuracy; four said, "No more than three errors per page" or "no more than one error per minute." One organization required 45 words per minute speed with no errors. Two others indicated that accuracy was included in the measurement of typewriting speed. Four organizations did not supply information about what their accuracy standards were.

The administrative secretary function. Slightly less than half of the 29 organizations responding to Question 17 indicated that they did have administrative secretaries (14 - 48.3 percent). Discussions with the executives, however, revealed that in only a few cases were these people under the supervision of the word processing management; in most cases they functioned as administrative assistants to various company officers and were under the supervision of those officers, not the word processing supervisor or manager.

In only five cases (31.2 percent of the 16 responding to Question 18) might the administrative secretaries be entry-level personnel. In four cases it was indicated that a corresspondence secretary might advance to a position as an administrative secretary; however, in one case it was the administrative secretaries who might advance to positions as correspondence secretaries.

Personnel functioning as both correspondence and administrative secretaries. As with Question 18, there seemed to be confusion on the part of business executives over the definition of the term, administrative secretary. Thirteen organizations, 52 percent of the 25 responding to the question, "Do you have personnel who work as both correspondence secretaries and administrative secretaries?" indicated that they did

have personnel who worked both as correspondence and administrative

secretaries. In many cases, however, this response referred to a

type of cross-training whereby the correspondence secretary might

take over for a traditional secretary or administrative assistant in

case of absence or overload, rather than cross-training or rotation of

different specialist functions.

Comparison of numbers of traditional secretaries to word processing

personnel. A substantial majority of the 30 executives reported, in

answer to Question 20, that they did have traditional secretaries in

their organizations (26 - 86.7 percent). Only 20 indicated a figure

as to the percentage of traditional secretaries, however (Question 21).

One organization had no traditional secretaries, and one organization

had only one. Five organizations had 80 to 85 percent traditional

secretaries compared to word processing personnel. One organization

indicated that 100 percent of their secretaries were traditional, even

though they had word processing. (That organization defined word

processing in terms of equipment only.) Table XIX shows how the 20

organizations replied to Question 21.

The median average of the responses falls between 75 and 80 per-

cent indicating that even those organizations that have implemented

word processing have a large proportion of traditional secretaries

in many cases.

Shorthand requirement and use. Twenty-one or 70 percent of the 30

executives reported that shorthand was a requirement for at least one

job in their organization and often more than one (Question 22). Only

26 executives reported as to whether or not shorthand was used (Question 23), but 23 reported that shorthand was used on some jobs while three responded that it was not.

Production standards for word processing employees. Of the 29 organizations responding to Question 24, 17 (58.6 percent) indicated an affirmative reply to having production standards. Line count was used by over half of the organizations as the method of measuring production; page count, document count, and unit count were used to a lesser extent.

Table XX gives a breakdown of how the production standards were measured (Question 25). These numbers do not necessarily represent the same organizations as those who responded to having such standards, since some organizations that indicated that they had production standards did not supply information about how those standards were measured, and some organizations used more than one method of measuring production.

In most cases the work that came to the correspondence secretaries was distributed randomly so that each one had a fair sample of easier work (stored material, revisions) and more difficult work (original dictation, hand-written rough-draft copy). This random distribution was to provide variety and to prevent problems if one secretary was absent. In five cases, however, a lead operator or other designated secretary handled difficult material or long reports. In two cases operators were dedicated to certain departments and did not normally do work from other sources.

Table XIX

Percentage of Traditional Secretaries as Compared to
Word Processing Personnel in Organizations
Responding to Question

Traditional Secretaries to Word Processing Personnel (Percent Range)	Number	Percentage of Responses
0 – 5	2	10
10 – 15	1	5
20 – 25	1	5
30 – 35	1	5
40 – 45	0	0
50 – 55	3	15
60 – 65	0	0
70 – 75	2	10
80 – 85	5	25
90 – 95	4	20
100	1	5
Total	20	100

Table XX

Methods of Measuring Production Reported by Organizations
Responding to the Question

Measurement	Number	Percentage
Line count	10	55.5
Page count	4	22.2
Document count	2	11.1
Unit count	1	5.6
Other	1	5.6
Total	18	100.0

Career paths for word processing personnel. Slightly less than half of the 27 organizations responding (13 - 48.1 percent) indicated that they did have career paths in answer to Question 26, "Do you have designated career paths for corresondence secretaries and administrative secretaries?" However, since not many organizations had true administrative secretaries, there were limited opportunities for separate career paths. In some cases the career paths consisted of regular raises in salaries without any increases in responsibilities. In five instances the avenue of advancement was from word processing operator to word processing supervisor; but since there were only one or two supervisors, these opportunities were severely limited. In two organizations, job openings were posted on a board, and the word processing employees had the option to apply. A correspondence secretary or word processing operator could advance to a position as a personal secretary to a higher executive in five organizations; in another five, correspondence secretaries could advance to become administrative secretaries or administrative secretaries to correspondence secretaries. In few cases were there separate career paths leading to management positions.

Personality differences between correspondence and administrative secretaries. Fewer than half of the 30 organizations answered Question 28, "Do you find personality differences between successful correspondence secretaries and administrative secretaries?" The executives frequently indicated that they did not have sufficient information to answer the question. Of the 13 who did answer, eight replied "yes" and five answered "no." Those who answered in the

affirmative usually indicated that the correspondence secretaries

tended to be more technologically oriented; before employment the

applicants were asked, "Who fixes things around your house when they

break down?" These executives felt that the correspondence secretaries

needed to be more equipment oriented; administrative secretaries

tended to take more initiative and be more aggressive. Those who

replied "No" were those who tended to promote correspondence

secretaries to administrative secretaries or who did not have very

formalized word processing operations.

Satisfaction with word processing. A large majority of the 30 execu-

tives interviewed indicated that their organizations were satisfied

with the results of their word processing operations (Question 29).

Only in two cases (6.9 percent) were those results unsatisfactory, and

in two cases the results had been only somewhat satisfactory. Twenty-

five organizations (86.2 percent) indicated that their purposes had

been accomplished and that the results had been generally, if not com-

pletely, satisfactory. The comment was made that "eight people handle

the work of thirty or forty word originators" or that "we were not satis-

fied with the quality of the form letters we used to send out, but now

the work is excellent." Others remarked that "our business has in-

creased 200 percent and we would not have room to add that many addi-

tional typists, but our word processing operators can handle it."

Those who were not completely satisfied had found that their execu-

tives could not work as well with a word processing center as with a

personal secretary or that their work had decreased and they could no

longer justify the expense of the equipment.

Qualifications of entry-level correspondence secretaries. Table XXI

shows how 26 executives rated the qualifications listed in the request,

"Regarding entry-level employees who might sometime work as correspond-

ence secretaries in your word processing operations, please indicate

the importance of each of the following qualifications." The qualifi-

cations are listed with the one with the highest average rating first

and the qualification with the lowest average rating last. The

averages were found by assigning a value of "1" to those qualifications

marked as being of great importance, a value of "2" to those qualifica-

tions marked as being of secondary importance, and a value of "3" to

those qualifications marked as being of lesser or little importance.

Knowledge of spelling was considered to be of great importance by

all of the executives responding to the question; knowledge of punctua-

tion was considered very nearly as important in the composite ratings.

Typewriting accuracy was also considered to be of great importance by

most, although one executive rated it as of little or lesser importance.

Knowledge of grammar and good attendance and punctuality were also

rated as being of great importance by a majority of the respondents.

Shorthand and general mechanical aptitude were rated as being of little

or lesser importance by most of the executives, although one execu-

tive rated both qualifications as being of great importance. When

shorthand was indicated to be of great or secondary importance, that

rating was usually for reasons of promotion rather than use in the

current position.

In the blank for "Other" on the Business Survey form, one execu-

tive indicated that "deportment" was of great importance, and another

rated "hard worker" as being of secondary importance.

Table XXI

Qualifications for Entry-level Employees Who Might Work
as Correspondence Secretaries Ranked by
Order of Importance

Qualification	Great Importance	Secondary Importance	Lesser Importance	Average
Knowledge of spelling	26			1.000
Knowledge of punctuation	23	3		1.115
Typewriting accuracy	20	5	1	1.269
Knowledge of grammar	19	7		1.269
Good attendance and punctuality	18	8		1.308
Ability to follow directions	12	13		1.520
Typewriting speed	7	18	1	1.769
Proofreading skill	9	13	4	1.808
Ability to get along with others	7	17	2	1.808
Knowledge of business letter and form setups	8	12	6	1.923
Good business vocabulary	3	19	4	2.038
Machine transcription	5	10	11	2.231
Word processing concepts	6	8	12	2.231
Automatic typewriting	6	8	12	2.231
Good appearance	4	11	10	2.240
General mechanical aptitude	1	7	18	2.654
Shorthand	1	6	19	2.692

Some of the executives who rated "good appearance" of great importance indicated that good appearance in dress and grooming tended to go with good appearance of work.

Qualifications for entry-level administrative secretaries. Only 20 of the executives completed the item which requested, "Regarding entry-level employees who might work as administrative secretaries in your word processing operations, please indicate the importance of various qualifications, as in Question 1 above," or completed it in usable form. As with correspondence secretaries, English fundamentals was the item rated as being of great importance by the largest number of executives. Only two considered this qualification to be of secondary importance and none rated the item as being of lesser importance. Good attendance and punctuality, ability to follow directions, and ability to get along with others were high in the composite rating. Even for administrative secretaries, shorthand was rated as being of little or lesser importance by most of the executives.

Table XXII shows how the executives rated the qualifications for entry-level personnel who might work as administrative secretaries in the same manner as Table XXI shows the ratings for correspondence secretaries.

It is interesting to note that the qualifications for correspondence secretaries and administrative secretaries are generally in much the same order of importance. Good telephone technique, which was not among the qualifications listed for correspondence secretaries, was considered to be relatively important for administrative secretaries;

Table XXII

Qualifications for Entry-Level Employees Who Might Work
as Administrative Secretaries Ranked in
Order of Importance

Qualification	Great Importance	Secondary Importance	Lesser Importance	Average
Knowledge of English fundamentals	18	2		1.100
Good attendance and punctuality	16	4		1.200
Ability to follow directions	13	6	1	1.400
Ability to get along with others	12	8		1.400
Good telephone technique	13	4	3	1.500
Typewriting accuracy	11	8	1	1.500
Composing, editing skills	9	9	2	1.650
Good business vocabulary	8	10	2	1.700
Proofreading skill	7	11	2	1.750
Typewriting speed	5	12	3	1.900
Good appearance	7	7	6	1.950
Research ability	4	10	6	2.100
Word processing concepts	5	7	8	2.150
Knowledge of records management	2	12	6	2.200
Dictating ability	4	5	11	2.350
Shorthand	2	5	13	2.550

typewriting accuracy rated somewhat higher for correspondence secretaries than for administrative secretaries. Good appearance was rated more important than word processing concepts for administrative secretaries but less important for correspondence secretaries. General favorable qualifications, such as good attendance and punctuality and ability to follow directions, were considered to be more important than specialized skills such as automatic typewriting and knowledge of records management. Typewriting accuracy was considered to be of greater importance than typewriting speed for both correspondence secretaries and administrative secretaries.

Skills, knowledges, and attitudes which schools should teach for word processing employment. The executives were asked to rank 20 skills, knowledges, and attitudes which schools might try to teach their graduates who plan to enter business employment in the area of word processing (Question 3 of Part 2), in order numbering from most important (1) to least important (20). The interviewer had a card deck listing each of these items separately which was given to the executive to sort, if this procedure seemed helpful. In about a fifth of the interviews the executives made use of this device.

English fundamentals ranked highest, with typewriting accuracy being ranked as nearly as important. Use of common sense and logic was next in ranking; there was greater variation in the responses on this item with some of the executives believing this skill could not be taught and ranking it low in importance, while other executives believed this skill was the most important thing the schools should attempt to teach and ranked it accordingly.

Typewriting speed ranked next. Basic skills, like the use of common sense and logic, were ranked high by some and low by others who believed such teaching should be done long before teaching for word processing employment was undertaken. Automatic typewriting and word processing concepts were considered to be more important than machine transcription but less important than English fundamentals and type-writing skills. Dictating skills, shorthand, and research skills were ranked as being of lesser importance.

Other responses, not included in the listing on the Business Survey form, were deportment and hardworker, both of which were ranked as being of first importance.

Table XXIII shows the composite rankings of the skills, knowl-edges, and attitudes listed in Question 3, along with the standard deviations in the responses; on some items there was general agree-ment as to importance or unimportance while on others there was great divergence of opinion among the 25 executives who ranked the various items.

There are apparently some skills which these business executives believe schools should try to teach, even though they are not con-sidered of such high importance as qualifications for entry-level personnel. Typewriting speed was considered to be of greater impor-tance as a skill schools should try to teach than as an entry-level qualification for correspondence secretaries and of much greater im-portance than as an entry-level qualification for administrative sec-retaries. Although it might be difficult to measure certain qualifi-cations before employing someone, typewriting speed is relatively easy

Table XXIII

Composite Ranking of Skills, Knowledge, and Attitudes
Which Schools Should Try to Teach
for Word Processing Employment

Skill, Knowledge or Attitude	Composite Ranking	Standard Deviation
English fundamentals	4.320	3.461
Typewriting accuracy	4.400	3.428
Use of common sense and logic	6.800	5.164
Typewriting speed	6.920	4.329
Basic skills--reading, math, etc.	7.560	6.299
Proofreading	8.560	4.369
Automatic typewriting	9.600	6.519
Word processing concepts	9.920	5.780
Proper business attitudes	9.920	4.609
Business vocabulary	10.240	4.986
Composing, editing skills	10.480	4.436
Machine transcription	10.920	4.821
Office procedures	11.720	4.057
Business principles	12.120	4.456
Human relations skills	12.200	5.773
Office machines	12.875	4.446
Telephone techniques	13.400	4.822
Dictating skills	15.440	4.083
Shorthand	16.120	4.576
Research skills	16.520	2.888

to determine. Telephone technique was considered to be of greater importance as a qualification for entry-level administrative secretaries than as a skill schools should try to teach.

Role of schools in teaching word processing. All of the 30 executives responded that schools should teach word processing in answer to Question 4. More than two-thirds believed two-year post-secondary schools should teach word processing; over half indicated that high schools should teach the subject, with more believing it should be at the twelfth grade level than at the eleventh grade level. More than half also indicated that business schools should teach word processing.

Table XXIV shows at what level or levels the executives believed word processing should be taught (Question 5).

In answer to Question 6, "If you believe schools should teach word processing, what would you like to see included in the curriculum?" the executives could check automatic typewriting, machine transciption, and/or word processing concepts. There was also a blank for other training, if there were additional things which should be included in the opinion of the executive. Table XXV shows how Question 6 was answered.

Twenty-six of the respondents believed word processing concepts should be taught, 21 believed that automatic typewriting should be included, and 19 thought that machine transcription should be taught. Although it was not included on the Business Survey form, seven executives indicated that English fundamentals should be included in the course. Five of the executives who did not indicate that machine

Table XXIV

Level or Levels at Which Word Processing Should be Taught

Level	Number
11th grade	13
12th grade	18
2-year post-secondary school	21
4-year college	6
Business college	17
Technical school	1

Table XXV

Subjects Which Should Be Included in the
Word Processing Curriculum

Subjects	Number
Word processing concepts	26
Automatic typewriting	21
Machine transcription	19
English fundamentals	7
Medical terminology	1
Business vocabulary	1
Proper attitudes	1

transcription should be taught stated that this skill was extremely valuable but was easily learned on the job.

As might be expected because of the differences in definitions of word processing and the variety of organizational setups, there were many different answers to the question, "Based on your experiences with word processing, how long should a student spend preparing for work in an organization's word processing operations?" (number 7) Six executives did not reply at all, indicating that it varied from person to person and job to job. None thought word processing could be taught in less than one week; about one-quarter indicated that it should take several weeks. Six of the respondents believed one year was needed. Five of those interviewed did not give a length of time for word processing per se but indicated that word processing should be included in secretarial and/or clerical procedures.

The average length of time that these executives felt a student should spend preparing for work in word processing fell between six-to-nine months and one year. Fourteen of these executives indicated that word processing should be included in secretarial procedures, and eight believed that it should be included in clerical procedures. Table XXVI shows how the 19 executives who indicated a length of time for training responded to the question.

Other responses. Six executives did not identify the three most important competencies a beginning word processing employee should have (Question 8). The 24 executives who did list competencies stressed English fundamentals, typewriting accuracy, and typewriting speed, along with word processing concepts, vocabulary, and terminology.

Table XXVI

How Long a Student Should Spend Preparing for Work
in an Organization's Word Processing Operations

Length of Time	Responses	Percentages
Less than one week	0	0.0
One week	1	5.3
Several weeks	5	26.3
Three-to-five months	3	15.8
Six-to-nine months	1	5.3
One year	6	31.5
Two years	2	10.5
More than two years	1	5.3
Total	19	100.0

Seven executives mentioned that the students needed practice on the actual equipment. Other responses were understanding the work ethic, having ability to cope, being production oriented, having human relations skills, having the desire to do things right, manual dexterity, ability to proofread, and ability to follow directions.

The recommendations in answer to Question 9, "If you could make one major recommendation for instructors in the secretarial-clerical area, what would it be?" also stressed improvement of basic English skills. Other recommendations were that emphasis on shorthand ability and one-on-one relationships (boss/secretary) should be played down and instead it should be taught that good management techniques utilizing word processing concepts could still be rewarding, if not more rewarding, experiences because a better quality, more economic, and more efficient product results. Another recommendation was that a more realistic training of what people actually do in a center or office was needed. Still another was to "teach them" to be responsible and take pride in their work.

Among the comments, one executive stated, "Schools should stop teaching outdated skills and prepare students for the offices of today." "Demand excellence and pride in their work," commented another executive. A third stated that students should learn word processing terminology and have some basic knowledge of computers.   X Word processing is developing extremely fast and changing so rapidly. Another believed that automatic typing needed to be initiated in high schools as soon as possible. Still another recommended that in-

structors be totally familiar with the field and market to make instruction relevant.

Adaptability and willingness to work were mentioned as being of vital importance. Several executives commented that productivity or getting the job done were important concepts that schools should try to teach their students. The suggestion was made that schools should teach more human relations and public relations skills and how to deal with pressure.

Other Information from Interviews

As indicated by the responses to the Business Survey, most of the organizations were well satisfied with Word Processing and planned to continue its use. In many cases the executives were very enthusiastic about the equipment. The technological aspects of word processing seemed to be in use much more than the procedural concepts. However, in a number of cases the equipment was not being used to its full potential. Automatic typewriters were being used for ordinary type-writing, when it might have been possible to take advantage of their text-editing capabilities.

Only a few of the word processing operations seemed to have been planned efficiently and systematically; in many cases an executive had seen a word processing installation in another city or another or-ganization and had purchased equipment for his company without ana-lyzing how word processing might best be used in that particular organization.

Most of the executives interviewed believed that word processing would be adopted by more and more organizations in the future. Many of

them foresaw greater use of more sophisticated equipment; many commented that they expected computer word processing and electronic mail to become common in a few years.

SUMMARY

The responses to the Word Processing Survey indicated that very nearly three-fourths of the executives responding to the survey were familiar with the term "word processing," with over 90 percent of the large organizations giving an affirmative response.

Slightly less than one-third of the organizations responding to the Survey had implemented word processing, with just under half of the large organizations having done so. Approximately 60 percent of the organizations with clerical staffs over 50 were using word processing. Very few organizations that did not have word processing planned to implement the concept in the near future.

Over 60 percent of the large organizations responding used automatic typewriters, with 36.1 percent of all the organizations reported use of them. Nearly 70 percent of the large organizations used machine transcription equipment, and 42.9 percent of the organizations overall indicated use of such equipment.

The use of automated equipment was not necessary for the organization to have implemented word processing. Conversely, not all the organizations that had automatic typewriters and machine transcription indicated that they had word processing.

Nor did all the organizations surveyed indicate that they had word processing if they had changed their procedures for handling

written communications a great deal in the last ten years; organizations that did have word processing did not all indicate great changes in such procedures.

Although a large number of organizations--221--returned the Survey forms, only about 40 percent were willing to answer another questionnaire and discuss the subject further in an interview. The other 60 percent either did not have the time for such interviews, did not believe such interviews would be beneficial, or otherwise were unwilling to be interviewed.

Summarizing the information obtained in the interviews, the following points can be made:

1. There are many different definitions of the term, "Word Processing." Not only are there differences in wording but also in substance.

2. Although new word processing installations are seen, there does not seem to be a strong trend either for more companies to adopt the concept or for it to die out. Most of the organizations have added equipment or upgraded their installation and have no serious difficulties with equipment not functioning properly.

3. Regarding the organizations' word processing personnel, the following information was obtained.

      a. Twenty-five of the 30 organizations interviewed have correspondence secretaries, although that term is not used, and in 16 organizations these secretaries may be entry-level personnel.

      b. Most of the correspondence secretaries had been trained either by the equipment vendors or by the organizations

themselves. Twenty-five organizations continued the training, either themselves or the equipment vendor.

c. Minimum typewriting speeds were required by most of the organizations; a minimum speed of 50 words per minute would meet the requirements of nearly half of the organizations, and a minimum speed of 60 would meet the requirements of three-fourths.

d. Fewer than half of the organizations had administrative secretaries, and in only five cases might they be entry-level personnel.

e. Fewer than half of the organizations interviewed had designated career paths for word processing personnel; those career paths, when in existence, did not usually lead into management positions.

f. Most of the organizations had traditional secretaries as well as word processing personnel, frequently with a larger percentage of traditional secretaries. More than two-thirds had positions for which shorthand was a requirement, and almost 90 percent had personnel who used shorthand. More than half of the correspondence secretaries took shorthand, but fewer than half of those who took it used it on the job.

4. A majority of the organizations measured production, with line count being the most frequent measure.

5. Most of the organizations reported that they had found the results of their word processing satisfactory.

6. Concerning the schools' role in preparing entry-level personnel, the executives expressed these poinions.

a. English fundamentals and typewriting accuracy were the qualifications considered most important for entry-level personnel, with knowledge of spelling being considered of great importance by all of the executives interviewed. Good attendance and punctuality and ability to follow directions were also considered important.

b. All of the executives felt that the schools should teach word processing, with the largest numbers indicating that it should be taught at the 12th grade level, at two-year post-secondary schools, and at business schools; almost half of the executives believed that word processing should be included in secretarial procedures. Although there was great variation in the lengths of time believed to be required for the word processing training, the average was between six-to-nine months and one year. Word processing concepts, automatic typewriting, machine transcription, and English fundamentals were the subjects which should be included in the training. Many of the executives believed word processing would be done by computer in the future and believed students should become familiar with computer concepts.

No attempt was made to categorize either the responses to the Business Survey or the other information from the interviews by size or type of organization. Because of the variety of organizational setups and the differences among the individuals interviewed, it was felt that such categorizations would be meaningless.

The phases of the information dealing with procedures and functions of personnel are questionable because there was great variation in how the executives defined "administrative secretary." Not only did the executives not agree among themselves, but also the definitions of some of them were different from the definition used in this study. Unless a definition was requested, telling the executives their answers were incorrect because they were using definitions that differed from that used in this study would not have be appropriate; however, as noted in several places, these differences in definition caused the information about administrative secretaries to be ambiguous.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The problem investigated in this study was to determine the
following:

1. To what extent the concept of word processing had been

    adopted in business organizations in the Omaha

    metropolitan area

2. How business organizations that have adopted word

    processing defined the term

3. How this adoption of word processing had affected the

    requirements for office personnel and

4. What organizations that have word processing expect

    and desire the secondary and post-secondary schools to

    do in preparing students for jobs in this field.

To provide data relative to these concerns, questionnaires were sent
to a random sampling of 300 business organizations, and interviews with
executives of 34 organizations that had adopted word processing were
conducted. This chapter contains a summary of these findings,
conclusions based on the information obtained, and recommendations for
business, schools, and for further research.

The study was limited to the Omaha metropolitan area, as deter-
mined by reference to the <u>Directory of Major Employers</u> of the Greater
Omaha Chamber of Commerce and the Yellow Pages of the Omaha and the
Council Bluffs telephone directories. All of the 98 organizations

employing over 300 people received copies of the Word Processing

Survey. The 102 organizations employing 300 or fewer that were

surveyed were selected randomly from the approximately 100 pages of

the Directory of Major Employers. The 100 small business organizations

(those with fewer than 25 employees) were selected randomly from the

915 pages of listings in the Yellow Pages in the Omaha and Council

Bluffs telephone books.

The Word Processing Survey, which was mailed to the 300 organi-

zations, was specifically designed to obtain the information needed

for the study. Information about understanding of the term "word

processing," about implementation of the concept, about equipment,

and about changes in procedures was asked.

Among the questions were one asking whether the organization had

word processing and another asking whether that organization would be

willing to provide further information in an interview. The organi-

zations that responded in the affirmative on both questions were

interviewed whenever possible. A Business Survey, which was also de-

signed specifically for this study, served as the basis for the inter-

views. Questions were asked about the organization's definition of

word processing, about the equipment, about the training and function-

ing of personnel, and about the ideas of the business people regarding

the schools' role in education for word processing employment.

The sources of the names of organizations for the sampling are not

perfect. The Directory of Major Employers is published every two

years, was over a year old at the time of the study, and was becoming

outdated. Not every small business organization would be listed in

the Yellow Pages of the telephone book. However, it was felt that these sources provided a sufficiently broad sampling to serve the purposes of the study.

SUMMARY

The first question studied was how many organizations in the Omaha metropolitan area are using "word processing." Approximately 48 percent of the large organizations (which included all of the organizations employing over 300 people) who responded to the survey have implemented. In fact, the 39 organizations that have adopted word processing represent 40 percent of all 98 large business organizations in the metropolitan area. Almost 30 percent of all the organizations of all sizes that responded to the survey indicated that they had implemented word processing. Fourteen of the organizations that had implemented word processing had more than 50 people working as secretarial or clerical personnel.

Nearly 75 percent of the organizations responding to the survey indicated familiarity with the term "word processing." However, the information developed in the interviews showed that there was little agreement as to what the term actually meant. A considerable number of those interviewed (nearly one-third) defined word processing as the use of certain machines—automatic typewriters, machine transcribers, or both. However, there were organizations which replied to the survey that they had word processing but had neither type of equipment. A third of the executives interviewed defined word processing as "processing words" without reference to equipment. Slightly more than

one-third of the executives interviewed defined word processing as systematizing of the handling of business communications using modern equipment and procedures. This definition agreed with the definition given in most of the literature reviewed.

As far as the equipment was concerned, more than half of the large organizations had automatic typewriters and machine transcription equipment. Forty percent of the organizations of all sizes had machine transcription equipment, and 34 percent had automatic typewriters. Computer word processing, although it was used by only four of the respondents, was the fourth most commonly used type of automatic typewriter; many of the executives believed that word processing will be done by computer in the future. IBM was reported as a supplier of automatic typewriters by over 80 percent of the 300 organizations that reported the model of that equipment used; IBM and Norelco were the suppliers for machine transcription equipment of a majority of the companies answering the question.

Concerning the securing of employees to fill positions, if any, created by the implementation of word processing and changed requirements for word processing personnel, a substantial amount of data were obtained. Although secondary schools, business schools, and community colleges had provided training for word processing employees in over 50 percent of the organizations, the equipment vendors had provided the training for employees in over 60 percent of the organizations, and in 72 percent of the organizations they themselves had provided the training. However, all of the executives interviewed believed that schools should teach word processing.

Most of the organizations had correspondence secretaries, and in over half those employees might be entry-level personnel. Most of the organizations had traditional secretaries, but fewer than half of them had administrative secretaries. Fewer than half of the organizations had career paths for word processing personnel, and when the organizations did have such career paths, they did not usually lead to management positions.

Regarding the expectations and desires of business organizations in the Omaha area that have adopted word processing of the secondary and post-secondary schools, valuable information was obtained. Although all of the executives interviewed believed that schools should teach word processing, i.e., word processing concepts, automatic typewriting, and machine transcription, the highest importance was given to the teaching of English fundamentals, with knowledge of spelling being considered of great importance by all of those interviewed.

Typewriting accuracy was considered to be of greater importance than typewriting speed. The minimum entry-level requirements for typewriting speed in over half the organizations could be met by typing 50 words per minute; the requirements of more than three-quarters of the organizations could be met by typewriting speeds of 60 words per minute.

Although 23 of the 30 executives interviewed reported that shorthand was used on some jobs, the executives rated shorthand skill as relatively unimportant both as an entry-level qualification and as a skill schools should try to teach their graduates for word processing employment. Training in specific skills—such as automatic typewriting

and office machines--was recommended for entry-level employees, but training in appreciation of the value of such qualifications as good attendance and punctuality and ability to follow directions was considered to have higher priority.

CONCLUSIONS

Based on the findings of the study, the following conclusions can be made:

1. A considerable number of business organizations in the Omaha - Council Bluffs metropolitan area have adopted word processing. Since almost half of the organizations in the area employing over 300 people and nearly 30 percent of all those responding to the study have implemented word processing, it is evident that many people are employed in organizations that have word processing. Those organizations that have word processing are generally satisfied with it and believe that it is accomplishing the desired purposes.

2. There is much disagreement or confusion over the definition of "word processing." Approximately a third of the executives interviewed defined the term as referring to the use of certain automated equipment; another third defined is as processing of words; and still another third defined it as a systematizing of business communications using modern equipment and procedures. This confusion is also reflected in the responses to the survey regarding implementation of word processing and about equipment in use.

3. In the organizations that have adopted word processing, the largest numbers of the employees have been trained in word processing by the organization itself and/or by the equipment vendors.

4. The procedural aspects of word processing and the administrative secretary function are utilized far less than the technological aspects.

5. Secondary and post-secondary schools should teach word processing. However, knowledge of English fundamentals and understanding of proper business attitudes—such as good attendance, good appearance, and ability to follow directions—should be considered prerequisites for any training in specific skills, since such fundamentals were considered of greater importance than the specialized skills.

RECOMMENDATIONS

Based on this research and the conclusions drawn from that research, the following recommendations can be made.

1. Schools at the secondary and post-secondary level should offer students education in word processing—the terminology, concepts, and career opportunities at the least, and training in skills on the equipment, if possible.

High schools should have courses in word processing concepts—including terminology, information about careers in the field—and machine transcription. Whenever possible, the schools should provide experience on automatic typewriters. Two-year post-secondary schools and business schools should provide basic skill training on at least one or two models of the less complicated automatic typewriters, as well as word processing concepts and machine transcription. Computer

concepts should be included since word processing in the future will probably be done by computers in many organizations.

However, it should be clearly understood that all students in these courses should have good skills in spelling, punctuation, and grammar as prerequisites; review of English fundamentals, improvement of typewriting accuracy, and reinforcement of proper business attitudes should be part of the word processing education.

2. Schools in this geographical area that are purchasing or leasing automatic typewriters should give serious consideration to acquiring at least some IBM equipment since that vendor is definitely the supplier to a majority of organizations; in acquiring machine transcription equipment, the fact that IBM and Norelco supply over 60 percent of the market should be noted.

3. Businesses and educators need to agree on a definition of word processing and need to publicize that agreement on definition of the term.

4. Educators should advise their students that there are opportunities for employment in word processing since many organizations have word processing and will continue its use in the future. However, educators should not advise their students that there are career paths in word processing leading to management positions. Word processing personnel usually at best are considered equal to traditional secretaries or are considered technicians; in many instances they are considered to be pool typists with sophisticated equipment.

5. Other research studies should be carried out on a broad scale to find out if the data developed in this study are typical of other

geographical areas. A study should be made in another three-to-five years in the Omaha area to see if the same situations as exist now continue.

The development of word processing provides schools with a challenging situation. Many people in business and education believe that a systematizing and mechanizing of the secretarial function--word processing--will revolutionize office procedures in the coming years. Schools are in a position to help solve the problems that may be created by such a revolution. However, it must be remembered that the procedures and machines cannot improve on the data given them; correct spelling, punctuation, and grammar are the responsibility of the operators. The schools must not only prepare people to handle machines and procedures efficiently but also to provide the proper data, i.e., words, for the machines to process.

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APPENDICES

APPENDIX A

Word Processing Survey Sent to 300
Business Organizations in the
Omaha Metropolitan Area

APPENDIX A

WORD PROCESSING SURVEY

The answers to these questions will help determine the extent to which word processing is being used in the Omaha-Council Bluffs metropolitan area.

Directions: Please answer the applicable questions in pen or pencil.

1. Are you familiar with the term, "word processing"? _____ Yes ___ No

2. Has your organization implemented word processing? _____ Yes _____ No

3. If not, do you plan to incorporate the concept of word processing in your company in the near future? _____ Yes _____ No

4. Do you have automatic typewriters in your company? _____ Yes _____ No

5. If yes, what models? _____

6. Do you use machine transcription equipment in your company?

   _____ Yes _____ No

7. If yes, what models? _____

8. To what extent have your procedures for handling written communications changed in the last 10 years? ___ Very little ___ Some

   _____ Quite a bit ___ A great deal

9. Approximately how many people in your organization perform work generally classified as clerical or secretarial? _____

10. Would you be willing to answer another questionnaire and discuss subject further in an interview? _____ Yes _____ No

11. If so, with what executive should an appointment be made?

Name   _____

Company   _____

Phone   _____

APPENDIX B

Cover Letter Which Accompanied
the Word Processing Surveys

APPENDIX B

November 15, 1977

j

Dear j:

Vocational business education is designed to prepare students for work in the offices of our communities. For business educators to prepare students properly, it is important for them to know what is currently happening in the business community.

As a part of my work at the University of Nebraska at Omaha, I am conducting a survey of selected businesses to determine what emphasis is being placed on word processing--the systematizing of written communication, usually using automatic typewriters and machine transcription--and how employees are and should be trained in this phase of business.

Your organization was one of those chosen to be included in the survey. I am enclosing a copy of a short questionnaire designed to provide information about the extent word processing is being used. Will you please complete the questionnaire and return it to me as soon as possible. All responses will, of course, be confidential.

A postage-paid return envelope is included for your convenience in replying.

Your assistance in this research will be appreciated. If you have any questions or comments on word processing or this data gathering, please feel free to contact me at UNO, phone 554-2721.

Sincerely yours,

Margaret Shearer

Enclosures

APPENDIX C

Letter Confirming Appointments with
Business Executives and Enclosing
the Business Survey

APPENDIX C

Dear

This letter is to confirm our appointment for an interview on
                              to discuss your company's experiences
with word processing and your ideas regarding the schools' roles in
training entry-level personnel.

A questionnaire is enclosed which will help me to gain a clearer
understanding of your company's word processing operations; included
also are a number of items regarding qualifications of entry-level
employees and what the schools should be doing to prepare students
for work in offices like yours.

Will you please fill in the questionnaire so that we can discuss it
during the interview. Responses can be clarified and amplified at
that time.

I am looking forward to meeting you on
Thank you for your cooperation.

<div style="text-align:center">Sincerely yours,</div>

<div style="text-align:center">Margaret Shearer</div>

Enclosure

APPENDIX D

Business Survey Which Was to Serve
as the Basis for Interviews with
Business Executives

This survey is designed to obtain information about how word processing
is being used by businesses and how schools should be training students
for employment in this field. Part 1 deals mainly with word processing
in your organization; Part 2 asks for your ideas about what schools should be
doing in the area of word processing.

Directions: Please answer the applicable questions. This survey will form
the basis for our interview.

Part 1.

1. Briefly, how does your organization define "word processing"? _____

    _____

    _____

2. When did you originally install your word processing equipment and/or

    concepts? _____

3. Have you added additional equipment, changed, or upgraded your word

    processing installations? _____

4. Is downtime a problem with automatic typewriters? ____ Dictation

    equipment? _____ Transcription equipment? _____

    If so, please explain briefly? _____

5. Do you have correspondence secretaries (word processing specialists)

    in your organization? _____

6. Are your correspondence secretaries entry-level employees? _____

7. Who trained your correspondence secretaries in word processing initially?

    _____ A secondary school?   _____ A business school?

    _____ A community college?   _____ A 4-year college?

    _____ An equipment vendor? ____ Your organization? _____ Another company?

    Other _____

8. Is the training continued? _____

9. Who continues and upgrades the training? _____

10. Do any of your correspondence secretaries take shorthand? _____

11. If yes, do they use it on the job? _____

12. Have you found that training and/or experience as traditional secretaries helps in becoming good correspondence secretaries? _____ Please explain briefly _____

_____

13. Do you have a minimum typewriting speed for entry-level employees who might work in your word processing operations? _____

14. If yes, what is that minimum speed? _____

15. Do you have a minimum standard for accuracy for entry-level employees who might work in word processing? _____

16. If yes, what is that standard? _____

17. Do you have administrative secretaries (secretaries in word processing not primarily concerned with typewriting output) in your organization? ____

18. Are your administrative secretaries entry-level employees? _____

19. Do you have personnel who work as both correspondence and administrative secretaries? _____

20. Do you have "traditional" secretaries in your organization? _____

21. Approximately what percentage of your secretaries are "traditonal" as opposed to those in word processing? _____

22. Are there any positions in your organization for which shorthand is a requirement? _____

23. Is shorthand then used on the job? _____

24. Do you have production standards for your word processing employees? _____

25. If yes, how is production measured? _____ Line count? ____Page count? ____Document count? _____ Other? _____

26. Do you have designated career paths for correspondence and
administrative secretaries? _____

27. If yes, what are they? _____

_____

28. Do you find personality differences between successful correspondence
secretaries and administrative secretaries? _____

Please explain briefly. _____

_____

_____

29. Have the purposes for which you installed word processing been
accomplished? Have the results been satisfactory? _____

1. Regarding entry-level employees who might sometime work as correspondence secretaries in your word processing operations, please indicate the importance of each of the following qualifications. Place a checkmark in Column 1 for those qualifications which you consider to be of great importance. Place a checkmark in Column 2 for those qualifications which you consider to be of secondary importance, and place a checkmark in Column 3 for those qualifications which you consider to be of little or lesser importance. Place no more than seven checkmarks in any one column.

	Great	2nd	Lesser
Typewriting speed	____	____	____
Typewriting accuracy	____	____	____
Automatic typewriting	____	____	____
Machine transcription	____	____	____
General mechanical aptitude	____	____	____
Shorthand	____	____	____
Word processing concepts	____	____	____
Knowledge of spelling	____	____	____
Knowledge of punctuation	____	____	____
Knowledge of grammar	____	____	____
Good business vocabulary	____	____	____
Knowledge of business letter and form setups	____	____	____
Proofreading skill	____	____	____
Good attendance and punctuality	____	____	____
Ability to get along with others	____	____	____
Ability to follow directions	____	____	____
Good appearance	____	____	____
Other _____	____	____	____

2. Regarding entry-level employees who might work as administrative secretaries in your word processing operations, please indicate the importance of various qualifications, as in Question 1 above.

	Great	2nd	Lesser
Typewriting speed	____	____	____
Typewriting accuracy	____	____	____
Dictating ability	____	____	____
Shorthand	____	____	____
Word processing concepts	____	____	____
Knowledge of English fundamentals	____	____	____
Composing, editing skills	____	____	____
Research ability	____	____	____
Good business vocabulary	____	____	____
Proofreading skill	____	____	____
Knowledge of records management	____	____	____
Good telephone technique	____	____	____
Good attendance and punctuality	____	____	____
Ability to get along with others	____	____	____
Ability to follow directions	____	____	____
Good appearance	____	____	____
Other _____	____	____	____

3. Please indicate what you believe are the most important skills, knowledge, and attitudes which schools should try to teach their graduates who plan to enter business employment in word processing. Place a (1) in the blank after the item you feel is most important, a (2) in the blank after the next most important, etc.

Typewriting speed _____
Typewriting accuracy _____
Automatic typewriting _____
Machine transcription _____
Dictating skills _____
Shorthand _____
Office machines _____
Proofreading _____
Telephone techniques _____
Office procedures _____
Word processing concepts _____
Research skills _____
Business principles _____
English fundamentals _____
Composing, editing skills _____
Business vocabulary _____
Proper business attitudes _____
Use of common sense and logic _____
Basic skills--reading,
    math, etc. _____
Human relations skills _____

Other _____ _____

4. In your judgment, should schools teach word processing? _____

5. If so, at what level or levels?   11th grade _____
                                   12th grade _____
                                   2-year post-secondary
                                       school _____
                                   4-year college _____
                                   Business school _____

                                   Other _____ _____

6. If you believe schools should teach word processing, what would you like to see included in the curriculum?

Training on automatic typewriters _____
Training on machine transcribers _____
Training in the concepts of word processing _____

Other _____ _____

7. Based on your experiences with word processing, how long should a student spend preparing for work in an organization's word processing operations?

Less than one week _____
One week _____
Several weeks _____
Three-to-five months _____
Six-to-nine months _____
One year _____
Two years _____
More than two years _____
Word processing should be included
    in secretarial procedures _____
Word processing should be included
    in clerical procedures _____

Other _____ _____

8. Identify the three most important competencies a beginning word processing employee should have.

1. _____

2. _____

3. _____

9. If you could make one major recommendation for instructors in the secretarial-clerical area, what would it be?

Comments:

Please give this completed questionnaire to the interviewer at the time of the interview so that replies may be discussed then.

APPENDIX E

Definitions of the Term, "Word Processing"

APPENDIX E

The term, "word processing," is defined in many different ways by different authorities.

One of the simplest definitions was given by George Simpson in "The American Office Revolution '74." (54) He describes word processing as "just the application of common sense in the design of procedures and the selection of equipment." Dr. Mark Langermo, in a mimeographed handout entitled "Word Processing, an Introduction to Word Processing, prepared for Nebraska Business Education Teachers," August, 1976, defined the term as "a plan for rapidly and efficiently converting thoughts into printed words." In other words, he says, "'word processing' is a way to efficiently convert thoughts into printed words using dictation equipment, automatic typewriters, appropriately trained operators and secretaries, and standard procedures." (31:2)

Dr. Merton Powell uses the term, "automated word processing," which is probably more accurate; however, the term, "word processing" is more frequently used. Dr. Powell defines "automated word processing" as "a systems approach to the handling of paperwork and includes new procedures, automated equipment, and job titles that are more descriptive of the duties performed by various employees." (42:5)

Jim Nebel, in a panel discussion on the subject, gave the following definitions: (39:1)

Word processing--the combination of people, procedures and
equipment that puts ideas into typewritten form. Properly

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applied, it makes writing letters, memos, reports and
other documents faster, easier and less costly.

--the combination of procedures, personnel and equipment
to accomplish the transformation of ideas to printed
form faster and at a greater savings over the traditional
routine.

--is the automization of the mechanical aspects of secretarial
practices as distinguished from the creative and administra-
tive practices and procedures.

--represents new systems for coping with words.

--in practice, it is the streamlining of the typing
environment into a high-production, highly automated,
highly specialized center for typing operations.

Dr. Margaret Johnson, at the NSBEA Annual Meeting, April 20, 1974,

gave this definition. (24.1)

The concept involves a systems approach to office work, really
involving three systems in one--the equipment system; a system
of procedures and controls through which people and machines
can be properly utilized, and, thirdly, a personnel system
providing (a) definable career paths in the clerical environment;
(b) a concept of functional management in the stenographic and
secretarial areas; and (c) functional job descriptions for all
office employees.

Anderson and Trotter (2:9) report definitions in use as being "the

means by which written, verbal, or recorded words and/or information are

transformed into usable form," and "word processing is the transition of

written, verbal, or recorded ideas into typewritten or printed form

and distribution thereof." They also give their own definition of the

term: "Word Processing is the correct combination and specialization

of people, procedures and equipment to allow an organization (or

individual) to transform its ideas into written communications at

substantial savings over existing methods."

Rosen and Fielden (51:9, 335) comment that the meaning of the term

can be as broad as the whole process of transition of an idea from the

mind to its final finished form, or it can be as narrow as another

name for a kind of typewriter. They quote the following definitions:

> Word processing is the transformation of ideas and
> information into a readable form of communication
> through management of procedures, equipment, and
> personnel.
> (Word Processing Standards Committee)
>
> Word Processing - a program for improving efficiency and
> effectiveness of business communication.
> (IBM Corporation)
>
> The transition of a written, verbal, or recorded word
> to verbal, typewritten, or printed form and distribution
> for its ultimate use.
> (International Word Processing Association - Glossary of
> Word Processing Systems)

Rosen and Fielden give their own definition, which is "the fastest,

most efficient, and most economical method of expediting paper flow from

authorship to distribution of the printed word."

As can be seen from these definitions, there is general agreement

that word processing involves proper equipment, procedures for control,

and specialization of functions in the transformation of ideas into

written form. In some cases a narrower meaning is used--e.g. word

processing is the use of automatic typewriters. In other cases, the

definition includes not only transformation of ideas into written form but

also the distribution of those ideas, and therefore includes reprographics,

photocomposition, facsimile and electronic mail, records management, and

micrographics.

APPENDIX F

Follow-Up Letter for
Word Processing Survey

APPENDIX F

January 20, 1978

Dear

In my letter to you of November 15, 1977, I requested information
about your office procedures, particularly with regard to word
processing. Enclosed is a copy of that letter.

There has been no reply. I realize that at this season of the year
everyone is extremely busy. It would help so much, however, if you
would fill out the enclosed questionnaire and return it to me
today.

Thank you for your time regarding this matter.

                                        Sincerely yours,

                                        Margaret Shearer

Enclosures

APPENDIX G

Listing of Names and Addresses of Organizations
Sent Copies of the Word Processing Survey

APPENDIX G

Listing of Names and Addresses of Organizations
Sent Copies of the Word Processing Survey

Mr. Edward V. Hulac, President
AM Cars, Inc.
5125 South 24th Street
Omaha, NE 68107

Mr. Vincent Mikesha, President
A-1 United Heating & Air Conditioning Inc.
2233 South 20th Street
Omaha, NE 68108

Mr. Walter J. Sempek
Ace and Ann Cafe and Bar
1263 South 16th Street
Omaha, NE 68108

Mr. Dwight Johnson
Adolf's Roofing Company
4954 Oaks Lane
Omaha, NE 68117

Mr. Bob Noyes
Aetna Insurance Company
7171 Mercy Road
Omaha, NE 68106

Mr. Adrian Sivinski
Agri-Tek Construction Company
4515 South 134th Street
Omaha, NE 68137

Mr. Jack L. Curtis, District Manager
Air Products & Chemicals, Inc.
1203 California
Omaha, NE 68102

Mr. Harry R. Mulnix
Airway Heating and Air Conditioning Inc.
61 Carter Lake Club
Omaha, NE 68110

Mr. Ray Parker, Owner
Ak-Sar-Ben Mobile Home Parts and Service
1302 Garfield
Omaha, NE 68107

Mr. Denny Jones
Alarm Specialists Inc.
8990 West Dodge Road
Omaha, NE 68114

Mr. Sam Bittner
Alco Real Estate
1207 West Broadway
Council Bluffs, IA 51501

Mr. Lazier A. Kavich, Chairman of the Board
All Makes Office Equipment Company, Inc.
2558 Farnam Street
Omaha, NE 68131

Mr. Jacob F. Barnes, Plant Manager
Alter Company
2603 Ninth Avenue
Council Bluffs, IA 51501

Mr. J. Peter Jeffrey, President
American National
90th and West Dodge Road
Omaha, NE 68114

Mr. S. A. Ancona, President
Ancona Brothers Wholesale Grocery Company
3701 North 16th Street
Omaha, NE 68110

Mr. Loren Anthony
Anthony Electric
1321 Fifth Avenue
Councli Bluffs, IA 51501

Mr. Jerald Duss
Arbor Crest
270 Alpine Mall, Westroads
Omaha, NE 68114

Mr. James E. Johnson, Administrator
Archbishop Bergan Mercy Hospital
7500 Mercy Road
Omaha, NE 68124

Mr. Lynn Bonge, President
Architects Plus
515 North 87th Street
Omaha, NE 68113

Mr. Frank Conway, General Manager
Armour & Company
5025 South 33rd Street
Omaha, NE 68107

Mr. R. F. Lambert, Manager
Asarco, Inc.
500 Douglas Street
Omaha, NE 68102

Mr. Wayne Atchley, President
Atchley Ford
3633 North 72nd Street
Omaha, NE 68104

Mr. Helen Riha
Atlas Awning Company
2909 Harney Street
Omaha, NE 68131

Mr. John Nanos
Auto Assurors Inc.
4607 South 96th Street
Omaha, NE 68127

Manager
Avalon Bar and Cafe
1524 Davenport
Omaha, NE 68102

Mr. Earl Faust
Avery Rents
418 Galvin Road North
Bellevue, NE 68005

Mr. Abe Baker, President
Bakers Super Markets
7315 Maple Street
Omaha, NE 68134

Mr. Edward J. Nelson, President
Ballantyne of Omaha, Inc.
1712 Jackson Street
Omaha, NE 68102

Mr. Randy Barritt
Barritt-Guill Business Equipment and Supplies, Inc.
132 West Broadway
Councli Bluffs, IA 51501

Mr. Richard Boroviak, Owner
Beaman Appliance and Refrigeration Service
7171 Mercy Road
Omaha, NE 68106

Mr. M. Y Beardmore, President
Beardmore Suburban Chevrolet, Inc.
418 Fort Crook Road, North
Bellevue, NE   68005

Mr. Gene Abboud, President
Bell Janitorial Service
7101 Mercy Road
Omaha, NE   68106

Mr. Thomas J. Hiross
Bellevue Home Decorating Center
514 Galvin Road South
Bellevue, NE   68005

Dr. Richard L. Triplett, Superintendent
Bellevue Public Schools
2009 Franklin
Bellevue, NE   68005

Mr. Dean Bennett
Dean Bennett Landscape Company
RR 2, Old Orchard Road
Council Bluffs, IA   51501

Mr. Gene Osborn, Manager
The Bike Rack
10719 Mockingbird Drive
Omaha, NE   68127

Mr. Daniel J. Bishop, President
Bishop Building Services
5015 Underwood
Omaha, NE   68132

Mr. James A. Canedy, Administrator
Bishop Clarkson Memorial Hospital
Dewey Avenue at 44th
Omaha, NE   68105

Mr. Jack Fickler, Regional Director
H. & R. Block, Inc.
8266 Hascall
Omaha, NE   68124

Mr. William H. Heavey, President
Blue Cross-Blue Shield of Nebraska
7262 Mercy Road
Omaha, NE   68124

Mr. David J. Kaplan, Chairman of the Board
Blue Star Foods, Inc.
1023 Fourth Street
Council Bluffs, IA   51501

Mr. W. P. Borchman, President
A. Borchman Sons Company
4101 Grant Street
Omaha, NE   68111

Ms. Mary Delle Bradley
Bradley Florist
3552 Dodge Street
Omaha, NE   68131

Mr. J. D. Diesing, Vice President
J. L. Brandeis & Sons, Inc.
16th and Douglas Street
Omaha, NE   68102

Mr. Lloyd Edwards, Manager
Brunswick Mockingbird Lanes
4870 South 96th Street
Omaha, NE   68127

Manager
Bud's Pawn Shop
2411 Lincoln Road
Bellevue, NE   68005

Mr. Myron Demaray, District Manager
Burger King
11265 Wright Street
Omaha, NE   68144

Mr. John L. Weingarten
Area Director, Sales & Service
Burlington Northern Inc.
1815 Capitol Avenue
Omaha, NE   68102

Mr. Douglas Little, President
Business Service & Equipment Company
900 South 75th Street
Omaha, NE   68114

Mrs. Barbara Vondracek
Busy B's Ceramic Studio
7101 South 84th Street
Omaha, NE   68128

Mr. Albert J. Collins, Plant Manager
Campbell Soup Company
1202 Douglas Street
Omaha, NE 68102

Mr. John Caniglia, Manager
Caniglia's World
1700 Farnam Street
Omaha, NE 68102

Mr. Don Carlson, President
Carlson Stapler and Shippers Supply Co.
8900 "F" Street
Omaha, NE 68127

Mr. John Jensen, Manager
Carriage House
10720 Pacific Street
Omaha, NE 68114

Manager
Catalina Capri
4841 Boyd
Omaha, NE 68106

The Most Reverend Daniel E. Sheehan
Catholic Archdiocese
100 North 62nd Street
Omaha, NE 68132

The Reverend John Flynn, Director of Education
Catholic Archdiocese Education Office
3212 North 60th Street
Omaha, NE 68104

Mr. Don Jasper, Owner
Center Street Conoco
3742 Center Street
Omaha, NE 68105

Mr. William Watts, President
Central Storage & Van
828 South 17th Street
Omaha, NE 68102

Manager
Chappie's Corner
2506 North 24th Street
Omaha, NE 68110

Mr. Charles F. Heider, President
Chiles Heider & Company, Inc.
1300 Woodmen Tower
Omaha, NE   68102

The Honorable Dennis C. Anderson, Mayor
City of Council Bluffs
City Hall, 209 Pearl Street
Council Bluffs, IA   51501

The Honorable Al Veys, Mayor
City of Omaha
1819 Farnam Street
Omaha, NE   68102

Mr. G. T. McFayden, President
Coakley Industrial Service, Inc.
4201 North 30th Street
Omaha, NE   68111

Mr. John Cohoe
Cohoe Lumber and Supply Company
25 South 15th Street
Council Bluffs, IA   51501

Ms. Linda Mankowski
College Management Service
13202 "I" Street
Omaha, NE   68137

Mr. Marshall Kushner
Commercial Lithographing Co.
1203 Pacific
Omaha, NE   68108

Mr. George Papineau, General Manager
Commodore Motor Inn
2410 Dodge Street
Omaha, NE   68102

Mr. Leon Evans, President
Community Bank of Nebraska
5180 Ames Avenue
Omaha, NE   68104

Mr. Frank Bigelow
Complete Truck Trailer Repair
1408 Leavenworth
Omaha, NE   68102

Mr. Charles Harper, President
Conagra, Inc.
200 Kiewit Plaza
Omaha, NE 68131

Mr. Red Erickson, Plant Manager
Continental Can Company, Inc.
4122 South 72nd Street
Omaha, NE 68127

Mr. Herman Myers, Jr., President
Continental General Insurance Company
4521 Leavenworth Street
Omaha, NE 68106

Mr. E. E. Kirsch, Manager of Operations
Control Data Corporation
11615 "I" Street
Omaha, NE 68137

Mr. John Ringwalt, President
Cornhusker Casualty Company
105 North 31st Street
Omaha, NE 68131

Dr. Leonard Gregory, Superintendent
Council Bluffs Public Schools
207 Scott Street
Council Bluffs, IA 51501

Mr. James Peters, General Manager
Council Bluffs Water Works
2000 North 25th Street
Council Bluffs, IA 51501

Mr. John C. Gaffney, Executive Director
Creighton Memorial St. Joseph Hospital
235 South 10th Street
Omaha, NE 68108

The Very Reverend Joseph H. Labaj, SJ, President
Creighton University
2500 California Street
Omaha, NE 68131

Mr. Randall Bigsby, Manager
Crosby-Kunold-Burket
32nd Avenue and Farnam Street
Omaha, NE 68131

Mr. T. L. Pearson Jr., President
Darland Building Service, Inc.
13305 "F" Street
Omaha, NE 68137

Mr. Dick Davis
Dick Davis Insurance
101 North 16th Street
Council Bluffs, IA 51501

Manager
Day Electric
2305 Ridgewood Avenue
Omaha, NE 68124

Mr. Dennis Diller
Diller Greenhouses, Inc.
301 Longview Drive
Council Bluffs, IA 51501

The Honorable George Buglewicz, Chairman, County Board
Douglas County
17th and Farnam
Omaha, NE 68102

Mr. Murray Shaw, Administrative Officer
Douglas County Health Department
393 Leavenworth Street
Omaha, NE 68105

Mr. J. W. Houston, Acting Administrator
Douglas County Hospital
4102 Woolworth Avenue
Omaha, NE 68105

Mr. Michael T. Healey, Administrator
Douglas County Social Services
1101 South 42nd Street
Omaha, NE 68105

Mr. James W. Earp, Owner
Jim Earp Chrysler-Plymouth
5500 "L" Street
Omaha, NE 68117

Col. Joseph H. Finn, Administrative Officer
Ehrling Berquist USAF Hospital
Offutt Air Force Base, Nebraska 68113

Mr. Nels D. Eliason, President
Eliason & Knuth Dry Wall Company, Inc.
4760 South 134th Street
Omaha, NE 68137

Mr. William W. Welch, Branch Manager
Equifax
4470 Farnam Street
Omaha, NE 68131

Mr. Robert Armagost, President
Exquisite Carpet and Upholstery Shampooing
9055 Westridge Drive
Omaha, NE 68123

Mr. Steve J. Tomasek, Jr., Regional General Manager
Falstaff Brewing Corporation
3302 South 25th Street
Omaha, NE 68108

The Reverend Robert P. Hupp, Director
Father Flanagan's Boys Home
Boys Town, Nebraska 68010

Mr. Thomas E. Galardi, General Manager
Father Flanagan's Boys Home Mailing Division
408 South 18th Street
Omaha, NE 68102

Mr. Keith Bray, Regional Manager
Financial Security Insurance Group
7171 Mercy Road
Omaha, NE 68106

Mr. F. Phillips Giltner, President
First National Bank of Omaha
One First National Center
16th and Dodge
Omaha, NE 68102

Mr. J. A. Irving, Chairman of the Board
First Westside Bank
222 South 72nd Street
Omaha, NE 68114

Mr. Wayne Simmonds, President
Floor-Brite Building Services, Inc.
7171 Mercy Road
Omaha, NE 68106

Mr. Francis J. Bellheimer, Supervisor
Food City Supermarkets
2500 South 120th Street
Omaha, NE 68133

Mr. Ray A. Ford, President
Ford Storage & Moving Company
1024 Dodge Street
Omaha, NE 68102

Mr. Mike W. Harrison, President
French Cafe, Inc.
1017 Howard Street
Omaha, NE 68102

Mr. William Mahon, District Sales Manager
Gates Learjet Corporation
3617 South 105th Avenue
Omaha, NE 68124

Mr. J. O. Leistner, Manager
Finance and Service Operations
General Electric Company
8401 West Dodge Road, Suite 210
Omaha, NE 68114

Mr. Don Schultz, President
Giant Manufacturing Company
3211 Nebraska Avenue
Council Bluffs, IA 51501

Manager
Gillespie Glass Service
4201 Center Street
Omaha, NE 68105

Mr. Ken Denfeld, Owner
Godfather's Pizza
5434 South 99th Street
Omaha, NE 68127

Mr. Dwight Buss, President
Goodrich Dairy Company
608 North Saddle Creek Road
Omaha, NE 68132

Dr. Robert Benton, President
Grace College of the Bible
1515 South 10th Street
Omaha, NE 68108

Mr. Robert Burns, President
Great Plains Beef Company
2700 South 23rd Street
Council Bluffs, IA   51501

Mr. Lee H. Greenwood, District Manager
Greyhound Lines, Inc.
1802 Farnam Street
Omaha, NE   68102

Mr. E. Thomas Gumbert
Gumbert Executive Exchange
1000 Omaha Towers
Omaha, NE   68124

Ms. Barbara Hale
Barbara Hale Photography
6206 Cypress Drive
Omaha, NE   68137

Mr. George W. Kielak, District Manager
John Hancock Mutual Life Insurance Company
3035 South 72nd Street
Omaha, NE   68106

Mr. Harry Olson
Harding Glass Industries Inc.
2559 Avenue A
Council Bluffs, IA   51501

Mr. Fred H. Hawkins, President
Hawkins Construction Company
2512 Deer Park Boulevard
Omaha, NE   68105

Dr. Robert Stratbucker, President
Health Technology Laboratories
1604 Fort Street
Omaha, NE   68110

Mr. Wallace Hedlund
Wallace Hedlund, Jeweler
12100 West Center Road
Omaha, NE   68133

Mr. Charles W. Durham, Chairman of the Board
Henningson, Durham & Richardson
8404 Indian Hills Drive
Omaha, NE   68114

Mr. Charles A. Monasee, President
Hinky Dinky Stores
4206 So. 108th Street
Omaha, NE 68137

Mr. Paul Diehl, Manager
Hiway Chef, Inc.
4505 South 108th Street
Omaha, NE 68137

Mr. C. H. Homquist, President
Holmquist Elevator Company
600 Essex Court
Omaha, NE 68102

Mr. Ron Huber, President
Huber Chevrolet Company
11102 West Dodge Road
Omaha, NE 68114

Mr. Franklin Giroux, Branch Manager
Hudson Foods
13076 Renfro Circle
Omaha, NE 68137

Mr. Jack Huntley
Jack Huntley Fire Equipment Company
1024 South 13th Street
Omaha, NE 68102

Mr. Milt Sindelar, Manager
ITT – Continental Baking Company
902 North 20th Street
Omaha, NE 68102

Mr. Louis E. Person, Vice President
Imperial Casualty & Indemnity Company
1319 Farnam Street
Omaha, NE 68102

Mr. Riley M. Green, Jr., Chief Executive Officer
Immanuel Medical Center
6901 North 72nd Street
Omaha, NE 68122

Mr. Norm Edwards, General Manager
Inland Container Corporation
1508 Chandler Road
Omaha, NE 68147

Mr. Gene Kocanda
Interstate Heating and Air Conditioning Inc.
14724 Grover
Omaha, NE 68144

Mr. Tom A. Guinan, Manager
Interstate System
2615 North 11th Street
Omaha, NE 68110

Dr. Robert D. Looft, Superintendent
Iowa Western Community College
2700 College Road
Council Bluffs, IA 51501

Mr. John Rivera
J R Motors, Inc.
7066 Maple Street
Omaha, NE 68134

Mr. Ed Lynn, Administrator
Jennie Edmundson Memorial Hospital
933 Pierce Street
Council Bluffs, IA 51501

Mr. Jerry Keating, Owner
Jerry's Yamaha
10175 "J" Street
Omaha, NE 68127

Mr. Lyle Kline, Manager
Jimbo's Auto Tune-up and Camper Repair
8536 "I" Street
Omaha, NE 68127

Mr. Dean Sandquist
Johnson Cashway Lumber Company
3030 South 24th Street
Omaha, NE 68108

Mr. Richard Johnson
Howard Johnson's
3537 West Broadway
Council Bluffs, IA 51501

Mr. Edward Jones, Jr., Manager
Jonesy's Dinner Den
8602 Maple Street
Omaha, NE 68132

Mr. Owen L. Saddler, Executive Vice President
KMTV Television Station
2615 Farnam Street
Omaha, NE 68132

Mr. James N. Kahler
Kahler Mortuary
441 North Washington
Papillion, NE 68107

Mr. W. H. Williams, General Manager
Kellogg Company
9601 "F" Street
Omaha, NE 68127

Mr. Kenneth E. Jensen, President
Kenny's Restaurant
7205 Dodge Street
Omaha, NE 68114

Mr. Peter Kiewit, Chairman of the Board
Peter Kiewit Sons' Company
1000 Kiewit Plaza
Omaha, NE 68131

Mr. Mike Kirk
Kirk's Typewriter Company
2420 "M" Street
Omaha, NE 68107

Mr. Charles Kirsch
Kirsch Company
3606 "D" Street
Omaha, NE 68107

Mr. W. H. Lawger, Plant Manager
Kitty Clover Division, Fairmont Foods
2200 South 24th Street
Omaha, NE 68108

Mr. Robert Koley
Koley's Professional Supply Company
9447 "J" Street
Omaha, NE 68127

Mr. Larry Bredin
L & M Office Equipment
4205 Dodge Street
Omaha, NE 68131

Ms. Mary Vacanti, President
LaCasa Pizzaria Venice Inn
4432 Leavenworth Street
Omaha, NE 68105

Mr. Gerald J. Langdon
119 North 51st Street
Omaha, NE 68132

Mr. Glenn H. Ledioyt
Ledioyt Land Company
345 Farm Credit Building
Omaha, NE 68102

Mr. Jack Duitch
Levenson Chemical Company
1407 Harney Street
Omaha, NE 68102

Mr. Frank Lee, Superintendent
Lewis Central Community Schools
1600 South Omaha Bridge Road
Council Bluffs, IA 51501

Mr. Marvin L. King, General Manager
Liberty U. A. Tape Duplicating, Inc.
2101 South 35th Street
Council Bluffs, IA 51501

Mr. Leon Alexander, Vice President
Liquid & Bulk Tank Division of Fruehauf Corp.
11502 "I" Street
Omaha, NE 68127

Mr. Mark Rimmerman, General Manager
Little King of Omaha, Inc.
4151 South 87th Street
Omaha, NE 68127

Mr. Allan Lozier, President
Lozier Corporation
4401 North 21st Street
Omaha, NE 68110

Mr. W. H. Zinn, Administrator
Lutheran Medical Center
515 South 26th Street
Omaha, NE 68105

Mr. Bert Wise
Mack Trucks Inc.
7210 "L" Street
Omaha, NE 68127

Mr. A. W. Roessig, Vice President
Magnelite, Inc.
6120 Binney Street
Omaha, NE 68104

Mr. Joe Belitz, General Manager
Maplewood Lanes
3030 North 101st Street
Omaha, NE 68134

Mr. Robert D. Marcotte, President
R. E. Marcotte & Associates
3568 Dodge Street
Omaha, NE 68131

Mr. Dennis E. Martin
300 Continental Building
209 South 19th Street
Omaha, NE 68102

Mr. Robert S. Walker, Sr., President
Max I. Walker Cleaners & Launderers
4923 Underwood Avenue
Omaha, NE 68132

Mr. Eli Schupack, President
McDonald's Restaurants
2410 Cuming Street
Omaha, NE 68131

Mr. Ray B. McMartin, President
McMartin Industries, Inc.
4500 South 76th Street
Omaha, NE 68127

Sister Mary Miguel, Administrator
Mercy Hospital
800 Mercy Drive
Council Bluffs, IA 51501

Mr. Jerome T. Erdman, Executive Director
Metro Area Transit
2615 Cuming Street
Omaha, NE 68131

Dr. Marm Harris, President
Metropolitan Technical Community College
30th and Fort
Omaha, NE 68111

Mr. Robert W. Bell, General Manager
Metropolitan Utilities District
1723 Harney Street
Omaha, NE 68102

Mr. R. Louis Kinerk, Plant Manager
Metz Baking Company
4383 Nicholas Street
Omaha, NE 68131

Mr. M. Kubby, President
Mid-West Auto Supply
1524 West Broadway
Council Bluffs, IA 51501

Mr. Morris Bresel
Midwest Box Company
6425 North 16th Street
Omaha, NE 68110

Mr. John Rosen
Midwest Industrial Tool
14920 Grover Street
Omaha, NE 68144

Mr. Gilbert H. Straley, President
Midwest Packing Company
3120 "G" Street
Omaha, NE 68107

Mr. Milt Eliason
Millard Drywall Services Company
4760 South 134th Street
Omaha, NE 68137

Mr. Don Stroh, Superintendent
Millard Schools
Board of Education
12801 "L" Street
Omaha, NE 68137

Mr. H. J. Miller, Owner
H. J. Miller Construction, Inc.
4343 South 67th Street
Omaha, NE 68117

Mr. George Miller, Owner
Miller Paint and Lacquer Company
1261 South 13th Street
Omaha, NE 68108

Mr. Tony Mills
Tony Mills Chevrolet Inc.
Highway 275
Valley, NE 68064

Mr. Keith Edquist
Mission TV and Appliance Center
2100 Harvell Road
Bellevue, NE 68005

Mr. David Seefus, General Manager
Monarch Uniform Service
2007 Poppleton Avenue
Omaha, NE 68108

The Reverend Roland A. Jank, Jr.
Mount Olive Lutheran Church
7301 North 28th Street
Omaha, NE 68112

Mr. John Mulhall, Owner
Mulhall's Landscaping Nursery and Garden Center, Inc.
3615 North 120th Street
Omaha, NE 68164

Mr. V. J. Skutt, Chairman of the Board
Mutual of Omaha
Dodge at 33rd Street
Omaha, NE 68131

Mr. Robert M. King, Plant Manager
Nashua Corporation
3838 South 108th Street
Omaha, NE 68144

Mr. Ralph Stuck
National Account Systems of Omaha, Inc.
2606 Harney Street
Omaha, NE 68131

Mr. Philip Liesche, President
National Indemnity Company
3024 Harney Street
Omaha, NE 68131

Mr. Fred I. Koslowski, Vice President
Natkin & Company
4001 Leavenworth Street
Omaha, NE 68105

Mrs. Rose Blumkin, Chairman of the Board
Nebraska Furniture Mart, Inc.
2205 Farnam Street
Omaha, NE 68102

Mr. John W. Estabrook, Administrator
Nebraska Methodist Hospitals
8303 Dodge Street
Omaha, NE 68114

Dr. Merrill T. Eaton, Director
Nebraska Psychiatric Institute
602 South 45th Street
Omaha, NE 68105

Mr. George W. Collins, Superintendent
Nebraska School for the Deaf
3223 North 45th Street
Omaha, NE 68104

Mr. Rudy Nelson
Rudy Nelson Signs of Distinction
6795 Bedford
Omaha, NE 68104

Mr. James Vanderwalle
New Life Clinic
10842 Old Mill Road
Omaha, NE 68154

Mr. Frank E. Blazek, Manager
New Tower Hotel Courts
7764 Dodge Street
Omaha, NE 68114

Mr. Willis A. Strauss, Chairman of the Board
Northern Natural Gas Company
2223 Dodge Street
Omaha, NE 68102

Mr. Tom Lang, Manager
Northwest Fabrics
8260 Grover Street
Omaha, NE 68124

Mr. Jack A. McAllister, President
Northwestern Bell Telephone Company
100 South 19th Street
Omaha, NE 68102

Manager
Nott Company
9335 "J" Street
Omaha, NE 68127

Mr. Joe Beraldi
Oard-Ross Drug
701 Sixteenth Avenue
Council Bluffs, IA 51501

Mr. Michael O'Daniel, President
O'Daniel Motor Center
7801 Dodge Street
Omaha, NE 68114

Mr. Don Oden
Odens Sewing Store
4814 Dodge Street
Omaha, NE 68132

Dr. Eugene C. Oliveto
105 South 49th Street
Omaha, NE 68132

Mr. Milton J. Olson, President
Olson Brothers, Inc.
2652 St. Mary's Avenue
Omaha, NE 68105

Mr. Nathan Novak, President
Omaha Computer Service
3000 Farnam
Omaha, NE 68131

Mr. Robert D. Vacinek, President
Omaha Indemnity Company
3113 Dodge Street
Omaha, NE 68131

Mr. John D. Woods, President
Omaha National Bank
17th and Farnam Streets
Omaha, NE 68102

Mr. Ralph Shaw, General Manager
Omaha Public Power District
1623 Harney Street
Omaha, NE 68102

Dr. Owen Knutzen, Superintendent
Omaha Public Schools
3902 Davenport Street
Omaha, NE 68131

Mr. Paul H. Kupfer, President
Omaha Savings & Loan Association
8630 Cass Street
Omaha, NE 68113

Mr. Leonard Holton
Omaha Spring Service, Inc.
1721 Nicholas
Omaha, NE 68102

Mr. Steven Moser, General Manager
Omaha Standard, Inc.
2401 West Broadway
Council Bluffs, IA 51501

Mr. Harold W. Andersen, President
Omaha World-Herald Co.
14th and Dodge Streets
Omaha, NE 68102

Mr. H. G. Wandel, Administrator
Orchard Hill Nursing Manor
3853 Decatur
Omaha, NE 68111

Mr. William Hawkins
Overhead Door Company of Omaha
7887 "F" Street
Omaha, NE 68127

Mr. Paul Madsen
Oxygen Service Company
1506 Webster
Omaha, NE 68102

Mr. Prosper Cormier, Regional Sales Manager
Pacific Intermountain Express
4100 South 76th Street
Omaha, NE 68127

Mr. D. J. Witherspoon, Chairman of the Board
Pamida, Inc.
8800 "F" Street
Omaha, NE 68127

Dr. Paul D. Basler, Superintendent
Papillion-LaVista Public Schools
1217 Golden Gate Drive
Papillion, NE 68046

Mr. V. K. Parks, President
Parks Construction Company
15803 Pacific Street
Omaha, NE 68130

Ms. Marie Siedenspinner
Partyland
10801 "Q" Street
Omaha, NE 68137

Mr. William R. Parker, Administrative Manager
Pendleton Woolen Mills
911 Douglas Street
Omaha, NE 68102

Mr. D. C. Anderson, District Manager
J. C. Penney Co., Inc.
126 New York Mall, Westroads
Omaha, NE 68114

Mr. John Wenninghoff, Workroom Manager
J. C. Penney Workroom
4850 "G" Street
Omaha, NE 68117

Mr. Jack W. Perry
Jack W. Perry Plumbing
10262 Miami
Omaha, NE 68134

Mr. C. A. McCurdy, Business Manager
Physicians Clinic
10060 Regency Circle
Omaha, NE 68114

Mr. Robert A. Reed, President
Physicians Mutual Insurance Co.
115 South 42nd Street
Omaha, NE 68131

Ms. Cindy Johnson
Pizza Haven
1201 Harlan Drive
Bellevue, NE 68005

Mr. Frank Gilman, Chairman, Board of Supervisors
Pottawattamie County
Court House, 228 Pearl Street
Council Bluffs, IA 51501

Mr. William P. Six, President
Prairie Ford Truck Sales, Inc.
4522 South 108th Street
Omaha, NE 68137

Mr. J. F. Waters, President
Puritan Manufacturing Inc.
1810 Cuming Street
Omaha, NE 68102

Mr. Samuel Barnard Marvin, President
R-Lynn Service Company
230 South 25th Street
Omaha, NE 68131

Dr. Bryce D. Stallard, Superintendent
Ralston Public Schools
8545 Park Drive
Omaha, NE 68127

Mr. James Lichei, Manager
Ramada Inn Airport
2002 Locust Street East
Omaha, NE 68110

Mr. Herman Hood, Manager
Red Lobster Inns of America, Inc.
330 South 72nd Street
Omaha, NE 68114

Mr. A. D. Gordman, President
Richman Gordman Stores
12000 West Center Road
Omaha, NE 68144

Mr. H. T. Hickey, President
Rivett Lumber Company
222 South 72nd Street
Omaha, NE 68113

Manager
The Rockbrook Spa
10820 Prairie Hills Drive
Omaha, NE 68144

Mr. Leonard F. Herdzina
Rockbrook TV
11046 Elm Street
Omaha, NE 68144

Mr. Ross S. Lorello, President
Ross's Steak House, Inc.
909 South 72nd Street
Omaha, NE 68114

Mr. Donald R. Mullin, Plant Manager
Safeway Stores, Inc.
7122 "J" Street
Omaha, NE 68117

Mr. Bill Langley, Vice President
Safeway Stores, Inc.
115 South 46th Street
Omaha, NE 68132

Mr. Bill Farrington
Schlott Farrington & Associates
3715 Dodge Street
Omaha, NE 68131

Mr. Charles Schneider, President
Charles Schneider Company
518 North 10th Street
Council Bluffs, IA 51501

Mr. Marshall Faith, President
Scoular-Bishop Grain Company
417 Grain Exchange Building
Omaha, NE 68102

Mr. Robert L. Tippett, Group Manager
Sears Roebuck & Company
7424 Dodge Street
Omaha, NE 68113

Mr. Ajon F. Farber, Chairman of the Board
Service Life of Omaha
1904 Farnam Street
Omaha, NE 68102

Mr. Donald Siebler, President
Siebler Heating and Air Conditioning, Inc.
5610 South 85th Street
Omaha, NE 68127

Mr. Lewis R. Cimino, President
Silvey Refrigerated Carriers, Inc.
Gifford Road
Council Bluffs, IA 51501

Mr. Robert H. Meyers, District Manager
Skaggs Drug Centers, Inc.
4911 South 72nd Street
Omaha, NE 68127

Mr. Vincent DeSciose, Jr., Owner
Sky Harbor Air Service
P. O. Box 19083
Omaha, NE 68119

Mr. C. Richard Smith
Smitty's Van and Storage Company
1417 North 18th Street
Omaha, NE 68110

Mr. A. G. Goudreau, Plant Manager
Sperry-Vickers
6600 North 72nd Street
Omaha, NE 68122

Mr. Robert Jacobson, Owner
Spic & Span Cleaners, Laundry and Linen Supply
1210 South 16th Street
Omaha, NE 68108

Mr. Richard Willard
Starlite Motel
3320 West Broadway
Council Bluffs, IA 51501

Mr. Chester Steemer
Steemer Body Shop
1318 North 24th Street
Omaha, NE 68111

Ms. Mary Rath, Manager
Stewart Beauty Salons and Schools
5010 Underwood Avenue
Omaha, NE 68132

Mr. Virgil Jansen, President
Stover Midwest Inc.
8000 Serum
Omaha, NE 68127

Mr. James P. Joyce, Distribution Manager
TCS Stores
14242 "C" Circle
Omaha, NE 68144

Mr. Jerry Cave
T J's Automotive Parts Inc.
1918 West Broadway
Council Bluffs, IA 51501

Ms. Patty Grabow
The Tennis Club
4718 North 120th Street
Omaha, NE 68164

Mr. Melvin Smith, Vice President
Tip-Top Division of Faberge', Inc.
1520 Cuming Street
Omaha, NE 68102

Mr. W. Grant Gregory, Partner-in-Charge
Touche Ross and Company
2000 One First National Center
Omaha, NE 68102

Mr. Gordon Burkhead, District Manager
Transcon Lines
5900 North 16th Street
Omaha, NE 68110

Mr. Stew Moyer, Manager
U. S. Supply Company
901 Farnam Street
Omaha, NE 68102

Mr. John C. Kenefick, President
Union Pacific Railroad Company
1416 Dodge Street
Omaha, NE 68179

Mr. Edward Frohm, President
Union Packing Company of Omaha, Inc.
4501 South 36th Street
Omaha, NE 68107

Mr. Jerald H. Wolfe, General Manager
United A-G Stores Cooperative, Inc.
7312 Jones Street
Omaha, NE 68114

General Russell E. Dougherty, Commander
United States Air Force
Strategic Air Command
Offutt Air Force Base, NE 68113

Col. James W. Ray, District Engineer
United States Army Corps of Engineers
215 North 17th Street
Omaha, NE 68102

Mr. A. K. Woltkamp, Vice President
United States Cold Storage
4302 South 30th Street
Omaha, NE 68107

Mr. Merrill D. Beal, Regional Director
United States Government
National Park Service - Midwest Region
1709 Jackson Street
Omaha, NE 68102

Mr. Donald J. Murphy, President
United States National Bank
1919 Douglas Street
Omaha, NE 68102

Mr. John P. Munnelly, Postmaster
United States Postal Service
1124 Pacific Street
Omaha, NE 68108

Mr. Ivan Abdouch, President
Universal Technical Institute
902 Capitol Avenue
Omaha, NE 68102

Dr. Del Weber, Chancellor
University of Nebraska at Omaha
60th and Dodge Streets
Omaha, NE 68132

Dr. Harry W. McFadden, Interim Chancellor
University of Nebraska Medical Center
42nd and Dewey Avenue
Omaha, NE 68105

Mr. Robert B. Daugherty, President
Valmont Industries, Inc.
Highway 275
Valley, NE   68064

Mr. Thomas P. Mullon, Director
Veteran's Administration Hospital
4101 Woolworth Avenue
Omaha, NE   68105

Ms. Marti Smith
Village Art Affair
6404 Irvington Road
Omaha, NE   68122

Mr. Morton A. Ives, Owner
Village Inn Pancake House
714 North 16th Street
Omaha, NE   68102

Manager
Vinton Furniture and Appliances
4926 South 24th Street
Omaha, NE   68107

Mr. DeLanne A. Simmons, Executive Director
Visiting Nurse Association
1201 South 42nd Street
Omaha, NE   68105

Mr. Phillip Wade, Manager
Watson Heavy Hauling
10551 "I" Street
Omaha, NE   68127

Mr. Eugene Valasek
Weathercraft Roofing Company
2911 "G" Street
Omaha, NE   68107

Mr. Frank J. Lefebvre, General Manager
Western Electric Company, Inc.
Box 14000, West Omaha Station
Omaha, NE   68114

Mr. W. H. Kastning, Area Manager
Western Electric Company, Inc.
4334 South 67th Street
Omaha, NE   68117

Mr. Loyal Katskee, President
Western Outdoor Advertising Co.
400 Grant Street
Omaha, NE 68111

Mr. Jim Kettering
Westinghouse Air Brake Division
13623 Walnut Street
Omaha, NE 68144

Mr. Dennis Doran
Westinghouse Credit Corporation
236 North 115th Street
Omaha, NE 68154

Mr. H. Vaughn Phelps, Superintendent
Westside Community Schools
909 South 76th Street
Omaha, NE 68114

Mr. Samuel W. Coldwell, General Manager
Weyerhauser Company
7517 "F" Street
Omaha, NE 68127

Mr. Albert Williams
Albert Williams Tree Service
4506 Laurel Avenue
Omaha, NE 68157

Mr. Nick T. Newberry, President
Woodmen of the World Life Insurance Society
1700 Farnam Street
Omaha, NE 68102

Mr. D. L. Eilers, President
World Insurance Company
203 South 18th Street
Omaha, NE 68102

Mr. George Oldaker, Westroads Manager
Younker-Kilpatrick's
150 Central Park Mall, Westroads
Omaha, NE 68114

Mr. Les McClanahan, Plant Manager
Zonolite Division
3520 "I" Street
Omaha, NE 68107

APPENDIX H

Listing of Names and Addresses of Executives
Interviewed About Their Organizations'
Word Processing

APPENDIX H

Listing of Names and Addresses of Executives
Interviewed About Their Organizations' Word Processing

Ms. Alice Lammers
Northern Natural Gas Company
2223 Dodge Street
Omaha, NE 68102

Ms. Carol Bronson
Traffic Department
Union Pacific Railroad Company
1416 Dodge Street
Omaha, NE 68179

Mr. John Emanuel
Director of Medical Records
Nebraska Psychiatric Institute
602 South 45th Street
Omaha, NE 68105

Ms. Helen M. Goc
Sperry-Vickers
6600 North 72nd Street
Omaha, NE 68122

Dr. Burrel H. Beck
Metropolitan Technical Community College
13202 "I" Street
Omaha, NE 68137

Ms. Rosemary Mullen
Physicians Mutual Insurance Co.
115 South 42nd Street
Omaha, NE 68131

Major Morris Schur
HQ. SAC/DAY
Strategic Air Command
Offutt Air Force Base, NE 68113

Dr. Norbert J. Schuerman
Omaha Public Schools
3902 Davenport Street
Omaha, NE 68131

Mr. Ken Werning
Mutual of Omaha
Dodge at 33rd Street
Omaha, NE 68131

Mr. Paul W. Demarest
Archbishop Bergan Mercy Hospital
7500 Mercy Road
Omaha, NE 68124

Mr. Edward J. Wigg
Western Electric Company, Inc.
Box 14000, West Omaha Station
Omaha, NE 68114

Mr. Richard D. Lewis
Millard Schools
12801 "L" Street
Omaha, NE 68137

Ms. Akiye Rebarich
Blue Cross-Blue Shield of Nebraska
7262 Mercy Road
Omaha, NE 68124

Ms. Carol A. Atherton, Chief
General Services Bureau
United States Army Corps of Engineers
215 North 17th Street
Omaha, NE 68102

Mr. John Tigges
Service Life of Omaha
1904 Farnam Street
Omaha, NE 68102

Mr. Tom Horeis
First West Side Bank
222 South 72nd Street
Omaha, NE 68114

Ms. Eileen Behrensen, Supervisor
Communications Center
Omaha National Bank
1700 Farnam Street
Omaha, NE 68102

Mr. L. C. Thompson
Woodmen of the World Life Insurance Co.
1700 Farnam Street
Omaha, NE 68102

Mr. Lloyd Marsh
Visiting Nurse Association
1201 South 42nd Street
Omaha, NE 68105

Ms. JoAnne Holloway
R-Lynn, Inc.
230 South 25th Street
Omaha, NE 68131

Mr. Harold L. Krueger, Jr.
Lutheran Medical Center
515 South 26th Street
Omaha, NE 68105

Mr. Bob Dwyer
McGrath, North, O'Malley, Kratz, Dwyer, O'Leary & Martin, P. C.
300 Continental Building
209 South 19th Street
Omaha, NE 68102

Ms. Shirley Ross
City of Omaha
1819 Farnam Street
Omaha, NE 68102

Ms. Bess Melvin
Lead Word Processing Operator
Boys Town Center for the Study of Youth Development
Boys Town, NE 68010

Mr. James V. Jacobson
Physicians Clinic
10060 Regency Circle
Omaha, NE 68114

Ms. Carolyn Blue
Architects Plus
Lakeside Atrium Building
Omaha, NE 68114

Mr. Robert Frey
Grace College of the Bible
1515 South 10th Street
Omaha, NE   68108

Ms. Sharon Hull
Jennie Edmundson Memorial Hospital
933 Pierce Street
Council Bluss, IA   51501

Ms. Cathy Blackman
Immanuel Medical Center
6901 North 72nd Street
Omaha, NE   68122

Mr. Daniel J. Bishop, President
Bishop Building Services
5015 Underwood
Omaha, NE   68132

Ms. Carolyn Nunn
United States National Bank
1919 Douglas Street
Omaha, NE   68102

Mr. R. F. Smathers
Peter Kiewit Sons' Company
1000 Kiewit Plaza
Omaha, NE   68131

Mr. C. M. Adkins
Northwestern Bell Telephone Company
100 South 19th Street
Omaha, NE   68102

Mr. Joe Petty
Conagra, Inc.
38th and Harney Streets
Omaha, NE   68131