

A COMPUTER APPROACH TO UNIVERSITY CURRICULUM DESIGN
FOR ADMINISTRATIVE MANAGEMENT

A Dissertation
Presented to
the Faculty of the Graduate School
The University of Houston

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Bette Ann Stead
August 1967

406693

ACKNOWLEDGMENTS

The writer is grateful to those who guided, assisted, and encouraged her in this study.

She wishes to thank Dr. Carlos K. Hayden and Dr. A. J. Lemaster, directors of this dissertation, for their many hours of guidance and encouragement. The other members of the doctoral committee, Dr. James M. Muse, Dr. Marvin D. Sterrett, and Dr. William O. Nesbitt were most helpful.

Mr. C. E. VanMeter gave invaluable assistance with his comprehensive knowledge of computer programming. The writer also thanks the Harris County members of AMS, ARMA, DPMA, NSA, and SPA who participated in the study.

Special acknowledgment is extended to her aunt, Miss Lucy Stead, and her loyal friends, Mrs. Mona Riley and Mrs. Myrtle Johnson, for their encouragement, cooperation, and assistance.

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This study was a comparison of administrative management duties for seven Standard Industrial Classification groups: mining; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and service and miscellaneous and five business organizations: Administrative Management Society (AMS), American Records Management Association (ARMA), Data Processing Management Association (DPMA), National Secretaries Association (NSA), and Systems and Procedures Association (SPA) to determine specific curricula for administrative management careers.

Harris County members of AMS, ARMA, DPMA, NSA, and SPA were found to be representative of the United States by industry according to Census Bureau figures. Organization members hold position careers related to the organization. Respondents to a questionnaire survey were compared on the basis of career and on the basis of industry.

As a basis of comparison, questions were asked and fifty-nine duties were listed. Respondents were asked to rank the duties as major, occasional, or to disregard those that did not apply to them. Major was given a numerical weight of four; occasional, one; and those disregarded, none.

An Autocoder program was written for the IBM 1401 at the University of Houston Computer Center. A total

"importance scores" and means were computed for each duty.

Analyses of variance showed many significant differences among the five organizations but only a few among the seven industrial groups; t-tests showed where the differences were.

In the light of the nature of the data collected and analyzed, the following findings were made as a result of this study:

1. Typical decisions and problems faced by administrative management are personnel, finance, equipment selection, records maintenance, and new systems and procedures recommendations.

2. Administrative management personnel hold responsible positions as indicated by position titles and span of control.

3. Creativity is essential for success in administrative management.

4. Administrative management personnel have the authority to implement programs within their own areas. Programs that effect the overall organization must have company board approval.

5. Administrative management is responsible for selection and maintenance of equipment and property: office machines, furniture, fixtures, buildings, and automobiles.

6. Most administrative management personnel feel a need to keep abreast of current developments by continuing

their formal education.

7. Effective communications are necessary for successful administrative management.

8. There is a definite need for properly trained records management personnel.

9. Office services personnel are necessary to maintain the growing emphasis on research.

10. Systems and procedures emphasize the best way for personnel to accomplish work.

11. Data processing has emerged to better integrate the entire organization through the release of more information for better management decisions.

12. Bright futures with rapid growth are viewed by administrative management.

13. AMS members appear to have more authority than the other organization members.

14. ARMA, DPMA, NSA, and SPA members' careers are specifically reflected by their answers.

15. It is possible to build and revise curricula by surveying modern position duties, evaluating them through a questionnaire, and studying them statistically by a system of numerical weights.

16. There are enough significant differences among the five organizations, AMS, ARMA, DPMA, NSA, and SPA, to develop a separate curricula for each of the occupations they repre-

sent: administrative manager, records manager, data processing manager, secretary, and systems analyst.

17. There are not enough significant differences (only 7 out of the 59 duties) among the seven Standard Industrial Classifications to develop a separate curriculum for each industry. Administrative management personnel do not hold significantly different positions among the industries.

As a result of the findings of this study, the following conclusions appear to be warranted.

1. The following core curriculum should be taken by students interested in these positions:

Administrative Manager:

- administrative management
- systems and procedures
- communications
- records management

Data Processing Manager:

- data processing
- systems and procedures
- administrative management
- communications
- records management

Records Manager:

- records management
- systems and procedures

communications
office services
administrative management

Secretary:

office services
communications
records management
systems and procedures
administrative management

Systems Analyst:

systems and procedures
data processing
administrative management
communications

2. The administrative management course should include preparation for these duties:

Coordinate the work of the office with that of other units.
Keep informed on latest developments in performing office work.
Know the individual jobs in the office.
Give adequate supervision.
Motivate office employees.
Keep office costs within acceptable limits.
Fix responsibility among personnel.
Delegate authority.
Establish definite and know relationships among organizational units.

Specify and purchase office furniture, machines, and supplies.
Provide for proper work facilities.
Write office manuals.
Prepare office budgets.
Select and utilize office electronic machines.
Administer office salary plan.
Assign the proper personnel to organizational units.
Handle the training and transferring of employees in keeping with mechanization plans.
Determine effective work environment - adequate lighting, elimination of noise, and proper ventilation.

3. The systems and procedures course should include preparation for these duties:

Develop office procedures.
Develop office methods.
Develop office systems.
Apply work simplification to office work.
Design and use of office forms.
Develop the format for information derived from machines.
Analyze and evaluate office jobs.
Peak work load handling.
Maintain proper balance among the various office activities.
Arrange the office layout-location of office furniture and machines.

4. The records management course should include preparation for these duties:

Maintain papers of permanent value.

Handle incoming and outgoing mail.

File records.

Destroy obsolete papers.

5. The communications course should include preparation for these duties:

Transact business over the telephone.

Composing letters or interoffice memos.

Writing reports.

Provide adequate communications among office employees and between office and nonoffice units.

6. The data processing course should include preparation for these duties.

Confer with computer programmer as to what should be handled by the computer.

Establish integrated data processing (IDP).

Computer analysis and programming.

7. The office services should include preparation for these duties:

Maintain quality of office work.

Schedule and dispatch office work.

Establish standards for office work.

See that stenographic work is performed.

Telegraph, telephone, cable.

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CHAPTER I

THE PROBLEM AND ITS INVESTIGATION

One major reason for the emphasis on higher education is the fact that for many people the most interesting and remunerative positions seem to require a college degree. Many positions in mining, construction, manufacturing, transportation, trade, finance, and services require a university education. In view of this, universities should strive to provide students with a broad background in the liberal arts, knowledge of administrative processes, and an understanding for the need to adjust to ever-present change.

I. STATEMENT OF THE PROBLEM

The purposes of this study are (1) to identify positions that can be obtained with a baccalaureate degree in business and those that deal with processes necessary to carry on and coordinate the separate functions of sales, production, finance, and personnel; (2) to discover the responsibilities of the men and women in these positions; (3) to demonstrate how a computer can determine which responsibilities are significant; and (4) to suggest a university curriculum to prepare students for these significant responsibilities.

II. NEED FOR THE STUDY

Administrative management has emerged to link sales, production, accounting, and personnel into a coherent organization. Administrative management has specific tools at its disposal: communications' media, records management, systems analysis, data processing, and office services. A reorientation of thinking on the part of top executives in sales, production, accounting, and personnel is necessary if these tools are to be utilized and if the separate parts of an enterprise are to fit together successfully.

The chief clerk has disappeared as administrative management has emerged. New techniques and technology emanating from computers have absorbed the detailed work of the past and are presenting challenging responsibilities, and rigorous study is needed to understand new concepts and grasp implications.

Designating the functions. Many Colleges of Business have management departments which may specialize in personnel and production problems. These departments do not include the administrative aspect. Administrative management functions emanate from the office and continue through the entire internal structure of the organization.¹

¹John J. W. Neuner and B. Lewis Keeling, Administrative Office Management (Cincinnati, Ohio: South-Western Publishing Company, 1966), p. 1.

Management no longer looks to the sales and the production departments as the sole contributors to profit. More and more, management is looking at the cost of office services and is learning how cost-reduction measures in this area can contribute to a "third profit" and at the same time make available the necessary data for timely decision making.²

Administrative management personnel perform the four fundamental management functions: planning, organizing, controlling, and actuating. The use of the management process marks the essential difference between a clerk and administrative management personnel. Administrative management is a distinct entity; it is an activity in itself; it requires the use of certain knowledge and skills; it can be studied; and proficiency can be obtained.³

Neuner and Keeling state these managerial functions:

Planning: Coordinating the various areas of administrative work so they will flow smoothly and quickly.

Organizing: Applying basic principles of office organization in planning the working relationships among employees to achieve the maximum profit.

Controlling: Developing, directing, and analyzing office systems and procedures to be followed in completing each major phase of office work. Preparing budgets, reports, and office manuals as means whereby costs are reduced and controlled.

²Ibid., p. 55.

³George R. Terry, Office Management and Control (Homewood, Illinois: Richard D. Irwin, Inc., 1966), p. 29.

Actuating: Directing and supervising effectively the office activities; adopting and implementing workable policies that will maintain a desirable level of morale.⁴

Recognizing the responsibilities. In order to provide an adequate and comprehensive university curriculum, universities must recognize administrative management's responsibilities. No administrative activity can be considered unimportant.

A major responsibility of the university is teaching the knowledge of basic skills in order to administer quality control. Drucker points out that in order to understand and appreciate the job managed, preparation is made by learning the basic skills.

If a man is to manage by concepts, patterns and principles, if he is to apply system and methods he can however, also prepare himself for the job. For concepts and principles can be taught as can system, method and the formulation of patterns. Indeed, perhaps the only way to acquire them is by systematic learning. At least I have never heard of anyone acquiring these basic patterns, the alphabet and the multiplication table, by experience.⁵

Drucker further states that specific business courses develop the ability to perform functional work with some degree of workmanship.

⁴Neuner and Keeling, op. cit., pp. 4-5.

⁵Peter F. Drucker, The Practice of Management (New York: Harper & Row, Publishers, 1954), p. 374.

And it is not only still important that everyone in an enterprise possess the ability to do functional work - at least on the journeyman's level - but it is crucial that every manager acquire the respect for workmanship which only a technical or craft skill can give.⁶

Hicks and Place mention these responsibilities:⁷

1. A knowledge of the various jobs in any particular office would be needed in order to maintain quality, quantity, and time standards and to know what constitutes a fair day's work for each job.

2. Issuing schedules, determining work loads, and providing adequate instructions are used for planning, analyzing, and directing so that each task is completed.

3. The most efficient use of human energy and machinery involves planning an effective layout for procedural work flows and keeping abreast of new developments in office machinery, equipment, methods, and supplies. By utilizing methods and procedural analyses, motion economy principles, and time studies, the most efficient way of doing things can be determined.

4. Organization charts, job descriptions, and descriptive titles are necessary so the office force can see operational units clearly defined and can understand their responsibilities and the lines of authority.

⁶Ibid., pp. 375-376.

⁷Charles B. Hicks and Irene Place, Office Management (Boston: Allyn and Bacon, Inc., 1962), p. 37.

5. Administrative management must provide for adequate communications throughout the organization it is serving: memos, leaflets, and manuals.

6. Satisfactory clerical personnel relationships are developed through sound selection training programs, and motivational procedures so that employees will do their best.

7. Administrative management must coordinate office activities with other organizational activities. Office services should be supplied and maintained wherever needed within an organization.

Schutte and Steinberg state that today's businessman "must watch trends, look for new areas of expansion and diversification, insist on a sound program of research, and sponsor all sorts of training programs. In short, he must be a creative, effective executive."⁸

Identifying the individual. Strogoff says that there are certain curriculum areas, such as those concerned with occupational education and training, in which business organizations can make a significant contribution.⁹ The Administrative Management Society (AMS), the Systems and Procedures Association (SPA), the Data Processing Management Association (DPMA),

⁸William M. Schutte and Erwin R. Steinberg, Communication in Business and Industry (New York: Holt, Rinehart, and Winston, Inc., 1960), p. 65.

⁹Alfred Strogoff, "Business Looks at Education," The Educational Forum, XXXI (Winter, 1966), p. 141.

the American Records Management Association (ARMA), and the National Secretaries Association (NSA) are examples of modern organizations that have evolved in the area of administrative management. AMS has formulated a Code of Ethics recognizing obligations to the science and art of management, to employers, to fellow workers, to society, and to country. After the National Office Management Association changed its name to the Administrative Management Society on February 1, 1964, Joseph W. Gawthrop noted the reasons. There had been a four-year reorganization and reprogramming period. A primary factor in the name change was the clear and unquestioned need to interest an increasing number of college graduates in administrative careers, and the obvious disenchantment of most college students with an "office" label. "Office management" was losing the accuracy of definition it once had. It was too small; the field covered had outgrown it. NOMA members had moved upward to new levels of authority and broader responsibilities. Along with their familiar office viewpoint, they were acquiring a company-wide viewpoint.¹⁰

Members of SPA promote a broader understanding of the value of effective management through study, education, research, and the exchange of ideas. DPMA brings together representatives from all areas of business that share computer

¹⁰Joseph W. Gawthrop, "Why NOMA Has Become AMS," Administrative Management, XXV (March, 1964), pp. 51-52.

innovations. ARMA fosters and coordinates research in correspondence, files, and forms management; historical documentation; information retrieval; microfilm; reports management; and vital records protection. The Institute for Certifying Secretaries, a department of NSA, administers the Certified Professional Secretary (CPS) Examination. Examination areas for certification include personal adjustment and human relations, business administration, business law, secretarial accounting, secretarial procedures, and secretarial skills.

Many administrative management personnel are university educated today. Their education includes thorough preparation in communications media, systems and procedures analysis, records management, data processing applications, and office services.

Drucker describes the type of education necessary:

Indeed, the demand that tomorrow will make on the manager may well force us to create anew what we have all but lost: the liberal education for use. It will be different (at least in outward appearance) from what our grandfathers knew by that name. But it will again have strict method and real standards, especially of self-discipline and of ethics, instead of the abandonment of method and standards that characterize so much of today's so-called "progressive education." It will again have a unified focus rather than be fragmented departmentally. And, like every living liberal education in the past, it will be preparation for work as an adult and citizen rather than merely "general culture."¹¹

A review of administrative management personnels' qualifications indicates that university education is important in

¹¹Drucker, op. cit., p. 376.

order that the student gain adequate knowledge and develop maturity and sound judgment. Hicks and Place also reflect the need for a university education. Adequate knowledge may be developed from a good general education; special instruction in administration is essential. The ability to assume and delegate responsibility and authority is a decision-making function of management. In order to make intelligent decisions, an individual must know how to initiate the mechanics for fulfilling these decisions. The administrative team must have the ability to teach in order to aid in the development of those who work under its direction.

A university education affords a scientific point of view so that developments and new facts and methods in several related areas may be assimilated and applied to specific situations. Sound judgment is essential and is attained by learning to gather facts and form opinions based on the facts.

Effective communications can only be accomplished with a knowledge of office procedures and a clear understanding of company objectives in order to process effectively meaningful information. With the ability to speak well, administrative management personnel may use full and convincing explanations to gain acceptance of new facts, office organizations, and control methods.

The salary level of administrative management likely indicates that the positions filled by these people are

responsible and worthy of university recognition. In a recent survey of 12,000 administrative executives, it was found that the median annual income was over \$10,800; 18 percent reported earnings in the \$12-15,000 range; and 14 percent made over \$15,000.¹²

Administrative executives often belong to professional organizations reflecting high ideals and encouraging university study. The university study may include specific education for administrative decision making. With this education, an individual may command an excellent salary.

III. LIMITATIONS OF THE STUDY

1. Administrative management personnel included in the study were limited to Harris County members of the Administrative Management Society, the American Records Management Association, the Data Processing Management Association, the National Secretaries Association, and the Systems and Procedures Association.

2. The computer approach was limited to 59 administrative-personnel duties.

3. Final results were limited to 235 properly completed questionnaires.

4. Literature reviewed was limited to the years 1954-1967.

¹²Neuner and Keeling, op. cit., p. 10.

IV. DEFINITIONS OF TERMS

1. Administrative Management Society (AMS). The national professional organization for administrative management; see pages 6 and 7.

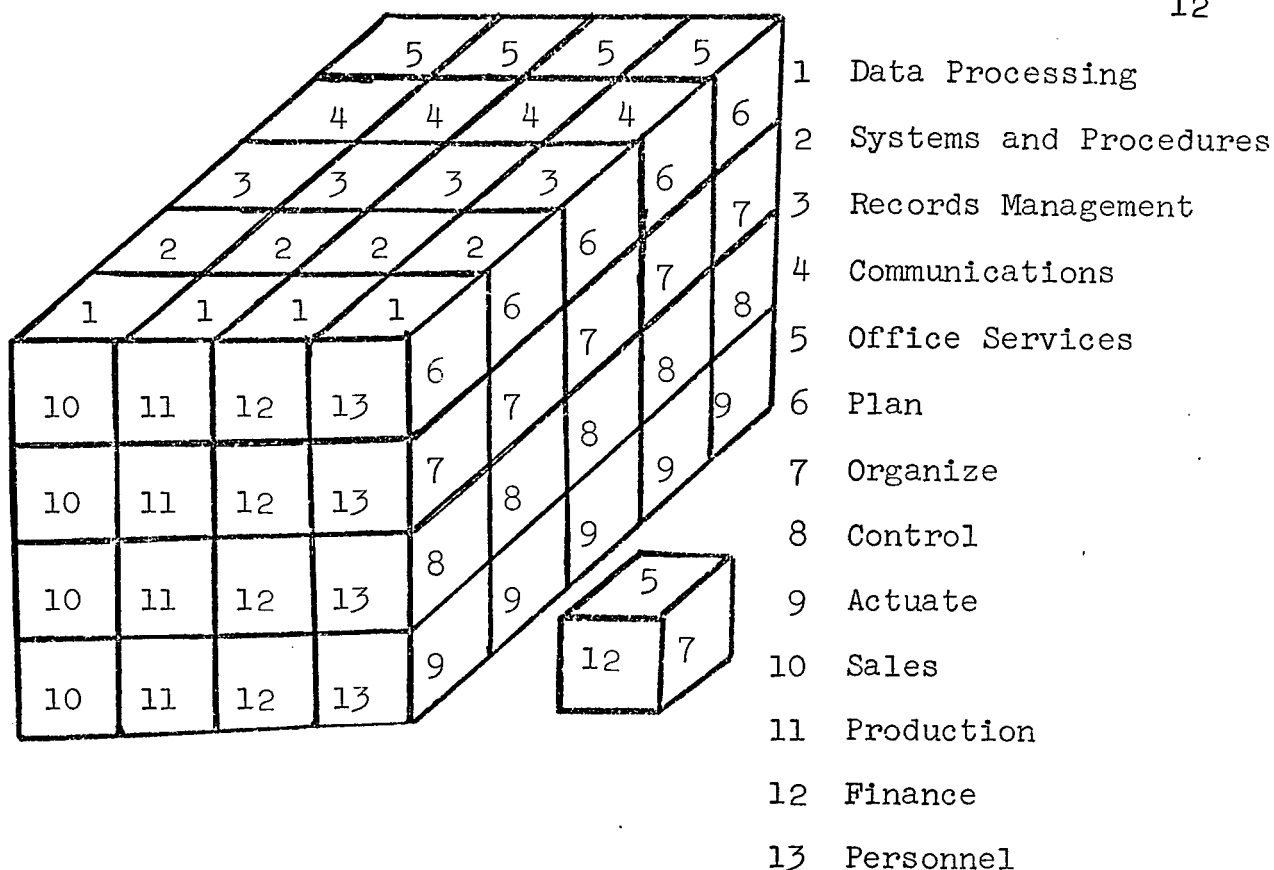
2. American Records Management Association (ARMA). The national-professional organization for records management; see pages 6 and 7.

3. Data Processing Management Association (DPMA). The national-professional organization for data processing management; see pages 6 and 7.

4. National Secretaries Association (NSA). The national-professional organization for secretaries; see pages 6-8.

5. Systems and Procedures Association (SPA). The national-professional organization for systems and procedures personnel; see pages 6-8.

6. Administrative management concept. The functions of management--planning, organizing, controlling, and actuating--in the content areas of communications, systems analysis, records management, data processing, and office services throughout an entire administrative organization--sales, production, finance, and personnel. The following figure illustrates the administrative management concept:



7. Administrative management personnel. All personnel in positions that could be obtained with a baccalaureate degree in business and who are engaged now in some aspect of administrative management.

8. Standard Industrial Classification (SIC). U. S. Bureau of the Budget manual which classifies into types the entire field of economic activities in order to promote uniformity and comparability in the presentation of statistical data.

9. Standard Metropolitan Statistical Areas (SMSA).

U. S. Bureau of the Budget classification for a county or group of contiguous counties which contains at least one central city of 50,000 inhabitants or more or "twin cities" with a combined population of at least 50,000. In addition, other contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city.

10. Communications. Methods by which quick and efficient gathering and dissemination of information can be made to promote understanding of principles.

11. Systems analysis. An analytical, planned approach to the activities needed to obtain desired objectives.

12. Data processing. Electronic and mechanical, high-speed processing, transmission, storage, and quick retrieval of data.

13. Office services. Production of work that emanates from the demands of the organization on the office.

14. Records management. Efficient organization, preservation, storage, and retrieval of records necessary to maintain an organization.

V. PROCEDURES

1. A review of the literature revealed that the concept of administrative management has been recognized by many writers as a newly emerging trend.

2. A pilot study was conducted by interviews with six administrative management personnel in order to ascertain their specific responsibilities.

3. A questionnaire was prepared to elicit information that would identify administrative management personnel and their responsibilities. Twenty-five questionnaires were mailed as a pilot study. The questionnaire was revised after the pilot study. Questionnaires were then mailed to Harris County members of AMS, ARMA, DPMA, NSA, and SPA.

4. Federal employment figures were obtained to show that Harris County is representative of U. S. employment by industry.

5. Each responsibility listed on the questionnaire was given a total "importance score"; four points for each respondent who ranked it as a major responsibility and one point for each respondent who ranked it as a minor responsibility. The "importance scores" allowed for the use of tests of statistical significance.

6. An Autocoder program was written for the IBM 1401 Computer at The University of Houston Computer Center. The

program was used to determine which responsibilities to include in university administrative management curriculum.

7. Conclusions were drawn and recommendations for computer methods of university business education curriculum revision were made.

VI. ORGANIZATION OF THE STUDY

The second chapter of this study is background material. Chapter III presents the subjective aspects of administrative management personnel positions. Chapter IV is the presentation of computer-programmed statistical treatment for university administrative management curriculum design. Chapter V is devoted to the summary, conclusions, and recommendations which resulted from the findings.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

A review of the literature reveals the major areas of administrative management to be communications, records management, office services, systems and procedures, and data processing. The literature selected was written from the standpoint of the businessmen who are actually involved in administrative management positions. Business already spends as much as all colleges and universities in the United States on education; therefore, there is no doubt about its commitment in this area.¹

Strogoff recognizes the necessity for the contribution of education. He says that while industry continues to devote a great deal of effort to the preparation of its employees, there is growing emphasis on the belief that the teaching of entry level skills is the responsibility of educational institutions.²

Blackstone emphasizes the importance of building curriculum from the standpoint of what is happening in business. He recognizes the "principle of probability as the governing device in curriculum establishment."

¹"Guiding Young People Into Office Careers," Administrative Management, XXV (July, 1964), pp. 45-46.

²Strogoff, op. cit., p. 138.

The principle of probability simply suggests an analysis of the activities and experiences which will face our students when they enter the business world. The problem then is to translate these experiences into learning situations which will help students meet the problems in his business environment satisfactorily.³

I. GROWING NEED FOR SPECIALIZED UNIVERSITY CURRICULUM

Strogoff states that "it is about time, too, that the talk of a business 'takeover' of education is put to rest. This type of nonsense may make good copy for magazine articles, but it doesn't jibe with either the realities of the educational environment or the desires of business."⁴

Russell takes a frank look at the student's and public's point of view.

Some students will do better with business training and some will do better with the liberal arts training. In other words, there is room for both types of preparation--room for liberal arts colleges, room for colleges of business. We need both types of colleges in order to capitalize on the motivation and interests of students, and business will be best served if it can draw on graduates of both types of institutions.

Edward Carter, chairman of the Board of Regents of the University of California, has said that future businessmen should take four years of liberal arts plus graduate study of business, if the student can afford to spend that much time and money. If all students were to spend this additional time, it would cost an additional \$100 million a year (multiplying 50,000 students finishing undergraduate business courses times an estimated average cost of \$2,000

³Bruce I. Blackstone, "Research Activities in Office Education" (paper read at the Ninth Annual Northwestern Michigan Business Education Conference, Lansing, Michigan, November 4, 1961).

⁴Strogoff, op. cit., p. 140.

per year for graduate study) - an enormous expense for taxpayers if we are speaking of tax-supported universities and probably a prohibitive expense for the majority of students in private colleges. If we were to adopt Mr. Carter's point of view, we would shut off one of the great gateways of social democracy in America.

Public demand for business education started in the middle of the last century when commercial schools were founded because it had become evident to some farseeing businessmen that one would learn business skills more effectively in a school than on the job.⁵

To supply the large numbers of personnel and wide variety of skills required by business, both graduate and undergraduate business schools must reappraise their objectives, methods, and results. Undergraduate schools and departments of business administration must provide both a liberal and a specialized education for large numbers of young people. Although relatively few graduates will reach high executive rank, all can make significant contributions at different levels and in different types of business, small and large. Work must be done at all levels of every business organization. Men and women can find great personal satisfaction in many different types of jobs.⁶

Wingate points out that a specialization need not interfere with an adequate liberal and business base. Deferring specialized training to graduate study would not meet the

⁵Charles H. Russell, "Businessmen and Colleges of Business," Collegiate News and Views, XX (December, 1966), pp. 2-3.

⁶Committee for Economic Development, Educating Tomorrow's Managers (New York: 711 Fifth Avenue 10022, 1964), pp. 27-28.

needs of most students as barely 10 percent go on to graduate work. So most future executive positions are likely to be filled by collegiate graduates who have not taken graduate work. Most evidence indicates that, everything else being equal, the student who has specialization in the field is preferred by employers. A college student who has specialized knows what he wants to do and is not apt to become discouraged with his first job. Thus his chances of making the right move after graduation improve. Gordon and Howell's insistence in 1959, that a broad general education is superior to specialization seems to be a matter of opinion rather than of fact.⁷

Niles, Niles, and Stephens cite a number of reasons for the growing volume of office workers:

1. Large growth in the number and size of office-type institutions: insurance companies, banks, and government agencies.
2. Increasing necessity for records and reports in every angle of all organizations.
3. More comprehensive reporting and audit requirements imposed by federal, state, and local government, including records for income and property taxes, social security, and standards of wages and hours.

⁷John W. Wingate, "The Question of Business Specialization in College," (New York: The Baruch School, City College of New York, n.d.).

4. Management requirements of more and more data for analysis of results in planning and control and for reports to stockholders and to the public.

5. A sharp rise has been noted in the demand for many types of skilled professional workers to prepare systems for use of the complex machines, to prepare data, to analyze results, and to maintain the system at a peak of performance.

6. Those not immediately involved in data processing must, nevertheless, make a considerable effort to understand what is going on.

7. Personnel responsibilities are stepped up as the pace of change increases. People must know more, so they must keep learning and stay flexible. With exacting demands for understanding and for precision of work, turnover of employees becomes increasingly expensive because it costs more to test, select, place, and train them.

8. The general concern with systems and with machines creates a need for the alert administrator to look for new and better ways of doing work and to cooperate understandingly and willingly with those in the company who specialize in planning and systems work.⁸

⁸Henry E. Niles, Mary Cushing Niles, and James C. Stephens, The Office Supervisor (New York: John Wiley and Sons, Inc., 1959), pp. 12-13.

II. UNIVERSITY ADMINISTRATIVE MANAGEMENT CURRICULUM

A dynamic college office management course. Rosa describes a college office management course as designed to meet three obligations of the office manager: (1) to know, to innovate, and to improve; (2) to measure and to control; and (3) to inspire and to motivate.

The course content is based on five principles:

1. That office management is becoming more critical in the operation of business.
2. That with increasing emphasis upon consumption, the center of company operations is moving to finance and sales. These activities involve considerable recordkeeping and other clerical operations.
3. That the operation of the office requires the same planning, control, innovation, and investment as the production-type operations.
4. That efficient productive operations may come to be considered the primary goal for office management.
5. That office management is concerned with the business in its entirety and represents the medium for the application of the results of social science research.

Case problems and personal experience are used for class discussion in order to tap the group's experience and assure full participation. Stress is placed on creative thinking and problem solving by systematic procedures. One

assignment involved continuing office work under unusual conditions, such as the printed word would remain on a particular document for only ten minutes. These conditions presented a real challenge. Other areas covered that have future value are work measurement, cost control, probability concepts, work sampling techniques, and statistical quality control concepts.⁹

Communications. Foy states that no matter how good a man's ideas are, if he can't communicate them effectively, verbally and in writing, he cannot work effectively with others. For the most part in the business world, things are done by working with other people.¹⁰

Thompson reports in The ABWA Bulletin that men and women executives rank four communications courses in the top six most-used courses they took in college. These four courses included business letter writing, human relations in business, English composition (writing), and public speaking.¹¹

John B. Morgan, an executive with General Dynamics-Astronautics describes his department of communications as

⁹Ercole Rosa, "College Training for Office Management," Office Executive, XXXVI (June, 1961), pp. 15-16, 18.

¹⁰Fred C. Foy, Chairman & President, Koppers Company, Inc., "A Businessman Looks At Business Education," Views on Business Education (Chapel Hill, N. C.: American Association of Collegiate Schools of Business, 1960), pp. 14-15.

¹¹Margaret H. Thompson, "Business Women Recognize Importance of Communications," The ABWA Bulletin, XXIX (April, 1965), pp. 23-27.

including the written work, still photographs, motion pictures, community relations, radio, television, telephones, and the daily exchange of facts and figures. He says the major failure in communications is brought on by the degree of specialty in various departments of a modern business. For example, a controller would favor a report presented to management in tabular form while an engineer would favor a chart or graph. "We must communicate in terms that are meaningful, in a language understandable, and for a task or area that is manageable and measurable."¹²

Communications are internally important to a company from the standpoint of administrative management. In presenting a new and complex system to top management, Gottfried lists four essentials: (1) organization of subject matter; (2) presentation technique; (3) potential graphic and presentation problems, and (4) actual speech delivery. Top management's approval is needed for resource expenditure and installation support.¹³

Wagner says the administrative manager should acquire certain personal characteristics during his college years. "Perhaps, above all, the administrative manager should be approachable, for it is on this basis that good communications

¹²John B. Morgan, "Communications Is the Alpha and Omega," The Office, LXI (February, 1965), pp. 69-71.

¹³Ira S. Gottfried, "Presenting Complex Systems to Management," Administrative Management, XXVI (September, 1965), p. 56.

rests."¹⁴

Records Management. In October, 1964, 439 AMS members completed a questionnaire on records management procedures. At that time records management activities included establishing retention schedules, protection of vital records, records center operation, filing systems surveys and analysis, information retrieval, approval of filing equipment purchase, archives-historical records, correspondence management, reports control and microfilm.¹⁵

Kavan tells us that records management is "faced with the prospect of transferring the management of records from file drawer storage and stuffing it into a computerized operation." The personnel involved learn on the job as little formal education is available. There is a real need for properly educated personnel.¹⁶

Office services. For many young people starting out on a business career, some knowledge of the facts and institutions of business or of particular business skills is a definite

¹⁴Diane Wagner, "Educating Future Managers," Administrative Management, XXVI (September, 1965), p. 56.

¹⁵"Survey: Records Management Procedures," Administrative Management, XXV (October, 1964), pp. 59-62.

¹⁶John C. Kavan, "As Records Managers Train for Tomorrow," The Office, LXIII (January, 1966), pp. 130, 134.

asset - often a condition of employment - even if the initial knowledge or skills must be continually modified and updated. Many companies have no training programs and expect a new employee quickly to be able to earn his keep.¹⁷

With most phases of activity involved in some research today, office services must view its roll. Kinney notes as research activity expands so do requests for office services. Copying documents is the life blood of the interchange of information through letters, reports, and published articles. Duplicating services, telephone systems, and secretarial services were also listed by Kinney as office services. He is office services administrator for Colgate-Palmolive Company.¹⁸

A survey made in February-March, 1965, by the Bureau of Labor Statistics showed managers of office services' salaries to have a middle range of \$590-1273 per month.¹⁹

Systems and procedures. Administrative team members in all businesses prepare, sort, check, distribute, post, analyze, and file many kinds of forms, records, and reports. These activities have become known as systems and procedures. Procedures are the means by which all repetitive business

¹⁷Committee for Economic Development, op. cit., pp. 14-15.

¹⁸W. E. Kinney, "A Challenge to Office Services," Administrative Management, XXVI (February, 1965), pp. 22-23.

¹⁹"Survey: Managers of Office Services' Salaries," The Office, LXIII (March, 1966), pp. 12-13.

action is initiated, carried forward, controlled, and stopped. Procedures are no more restricted to the office than are organization charts. Procedures include what work is to be done by various participants, who these participants are, and the order and timing of the steps in the process. A system is a network of related procedures.²⁰

Data processing. The successful users of high-speed automatic equipment in the factory and office say that automation has forced them to think through their entire business operation. It has made them ask fundamental questions about how the whole organization can better integrate the functions of sales, marketing, investment, and controls. They consider this the biggest dividend gained from automation.

The social impact of automation also forces fundamental questions about the substance of man's work and its relation to human satisfaction; about the possibility of enriching the skills needed to perform jobs; and about the question of what motivates men and management in an age of "remote controls" and rapid technological change. More fundamental questions raised are problems and opportunities of promotion, of growth on the job, and of satisfactory careers in office and factory

²⁰Richard F. Neuschel, Management by System (New York: McGraw-Hill Book Co., Inc., 1960), pp. 5-10.

work.²¹

In the May, 1965, issue of Administrative Management, seventy-four colleges and universities are listed as offering courses in data processing of direct interest to management.²²

Lachter says the administrative manager needs to know very little about the technical aspects or inner workings of computers. The administrative manager needs to know the computer capabilities at his disposal and how to get it to give him solutions to specific problems.²³

Office equipment developments are strong indications of the materializing systems-integrated, computerized office. These new developments will affect small firms as well as corporate giants.

Kleinschrod mentions some of these innovations for communications, systems integration, and the "small office." Each year brings new inventions in office machines. The significant emerging developments are the links between the machines. Microwave relays and cables interconnect computers, optical-scan inputs and visual-display outputs, desk-top adding machines, calculators, check-writers, and typewriters.

²¹Charles R. Walker, "Life in the Automatic Factory," Harvard Business Review, (January-February, 1958), p. 119.

²²"Courses in EDP for Management," Administrative Management, XXVI (May, 1965), pp. 44-46, 48-49.

²³Lewis E. Lachter, "Four Often-Used EDP Terms Defined," Administrative Management, XXVI (November, 1965), pp. 48, 50.

As a result, management's concepts of both communications and the very essence of office systems are changing. Highly integrated real-time systems show current information in summary form so that management has a chance to act if a situation needs correction.

Office machines have become integrated systems. These hybrid innovations are highly sophisticated. Among those available are combination computer and accounting machines; programmable electronic printing calculators with visual display screens, instant input verification, and automatic visual decimal placement; low-cost fast computers; high-speed combination copier-duplicator machines.

The small office, less than 100 employees, will become more involved as the versatility of common office instruments such as the telephone increases. Computer service bureaus are growing and scaled-down versions of "big-league" equipment are mounting in number.²⁴

III. RELATED RESEARCH

There have been numerous studies made with curricular implications reported in research literature. However, no study was found which defined present-day administrative management and its functions.

²⁴Walter A. Kleinschrod, "Three Facets of the Changing Office," Administrative Management, XXVI (January, 1965), pp. 16-20, 23.

A discussion of the studies that were most nearly related to this study follows.

Louis Howard Schuster completed a study in 1956, of "Organizational Relationships of the Office Manager." This study was primarily an inquiry into the relationship of the office manager to that of other management personnel within the organization structure along with the functions, educational background, salary range, line promotion, and job descriptions. Data were analyzed as a guide to business education for instructing prospective office managers in management functions and activities.

Schuster found that office functions tend to cluster around conducting tests, developing training programs for office activities include handling office supplies, filing, telephone and telegraph services, mailing and correspondence. Higher education frequently is a necessary prerequisite for the attainment of office management positions.²⁵

In 1957, Elfreda Maxine Rusher surveyed 266 women members of the National Office Management Association (NOMA), (now AMS) to determine characteristics, duties, basic problems, occupational traits essential to success, promotional opportunities, and educational background of women in office management positions. This information was used to determine

²⁵Louis Howard Schuster, "Organizational Relationships of the Office Manager" (unpublished Doctoral Dissertation, The Ohio State University, Columbus, Ohio, 1956).

some of the elements necessary for improvement of educational programs.

Rusher noted that the women in her study were employed on the middle-management level in both small and large firms. Major duties included supervising office employees and planning and scheduling office work. Typewriting, personnel management, office management, shorthand, principles of management, and business correspondence were the courses which had proved most valuable to them on the job.²⁶

Mary Claire Griffin conducted a survey of records administrators and executives who are members of ARMA and the Association of Records Executives and Administrators in 1961. She determined their responsibilities, educational background, and the need for records management instruction at the collegiate level. Her findings include the following:

1. The types of personnel most frequently supervised by the records administrators are records center clerks, records analysts, microfilming personnel, secretaries, and typists.
2. The largest number of records administrators surveyed are directly accountable to the executive using the titles of office manager; manager, office services; and other similar titles.
3. The office management course should be the course in which to include the activities of records management when the activities are not included in a records management course.

²⁶Elfreda Maxine Rusher, "A Study of Women in Office Management Positions with Implications for Business Education" (unpublished Doctoral Dissertation, The Ohio State University, Columbus, Ohio, 1957).

4. Records administrators should possess knowledge of basic business, economics, business organization, and management; and records administrators should have an understanding of the functions of finance, personnel management, sales, procurement, production, and research and development.
5. A majority of the respondent organizations authorize the records management program to include paper work activities of all departments of the organization.
6. Duties and responsibilities of records administrators are basically activities in the management of records retention, filing practices, microfilming, personnel management, and general management.
7. Records administrators should possess a knowledge of and the ability to make use of valuable tools, techniques, and machines. The tools and techniques considered most valuable by the records administrators are analysis of records-usage sheet, layout flow chart, records accessibility chart, and work measurement.
8. The records administrators consider the familiarity of the following four types of equipment essential in the effective performance of the records administrator's job: microfilming, copying (single copy), duplicating (multicopy), and electronic data processing equipment.²⁷

Catherine Murrison Jones traced the trends in office management from 1913-1962 in her 1964 study. She discovered the strongest apparent trends and innovations following World War II and the introduction of automation in the early 1950's.

Automation cut across departmental lines, and integration of office activities increased. Refinements in tabulating equipment and electronic computers affected drastically the manner of computing, recordkeeping, communicating, and the planning and controlling of systems. Auto-

²⁷Mary Claire Griffin, "Education Needed for Administrators of Records Management Programs" (unpublished Doctoral Dissertation, The Ohio State University, Columbus, Ohio, 1961).

mation also affected the work force by up-grading requirements for many office jobs. Because of some of these changes, the broad management duties and responsibilities of the manager of office activities will increase. Improved and simplified measurement techniques will lead to a greater emphasis on setting office standards.

Recommendations for a college curriculum in office management include basic courses in management, production, marketing, finance, personnel, and data processing as prerequisites for a beginning and an advanced course in office management. The recommended advanced course in office management simulates business and office conditions and gives students an opportunity to perform in the same fashion as in their future office positions.²⁸

IV. SUMMARY

Undergraduate education for specific business positions is both timely and worthwhile due to the present demands of business and limited graduate facilities. Administrative management--communications, office services, data processing, systems and procedures, and records management--is an area worthy of study. Chapter III explains the nature of the specific positions.

²⁸Catherine Murrison Jones, "Trends in Office Management as Revealed in the Literature, 1913-1962, with Implications for the Future of Office Management and for a College Curriculum" (unpublished Doctoral Dissertation, University of Colorado, Boulder, Colorado, 1964).

CHAPTER III

FINDINGS: PART I

Many of man's activities cannot be relegated to the computer. Weeks says that before anything can be communicated there must be an act of creation. Information and ideas must be processed and developed by human thinking.¹ This chapter provided a basis for understanding the actual administrative management positions used in the computer approach that follows.

I. THE SAMPLE

Tables I and II, pages 34 and 35, show that Harris County is representative of both Texas and the United States in the seven industrial classifications established by the U. S. Census Bureau's SIC. Table II shows for mining the U. S. (1.3 percent) varies from Texas (4.7 percent) by 3.4 percent; Texas (4.7 percent) varies from Harris County (2.9 percent) by 1.8 percent; and Harris County (2.9 percent) varies from the sample used in the study by 1.35 percent. Among the seven SIC classifications, Table II shows a variation of only 2 to 3 percent between the sample and the U. S. with the exception of manufacturing.

¹Francis W. Weeks (ed.), Readings in Communication From Fortune (New York: Holt, Rinehart, and Winston, Inc., 1961) p. 16.

TABLE I
AVERAGE NUMBER OF EMPLOYEES BY INDUSTRY IN 1964

Classification	U. S. ²	Texas ³	Harris County ⁴
Mining	3,633,000	102,842	36,091
Construction	3,056,000	187,576	107,339
Manufacturing	17,259,000	537,640	356,503
Transportation and Public Utilities	3,947,000	180,652	123,989
Wholesale and Retail Trade	12,132,000	673,849	336,233
Finance, Insurance, and Real Estate	2,964,000	147,998	81,671
Service and Miscellaneous	<u>8,569,000</u>	<u>346,631</u>	<u>225,888</u>
TOTALS	48,561,000	2,177,188	1,267,504

²United States Bureau of the Census, Statistical Abstract of the United States: 1966. (Washington: Government Printing Office, 1966), p. 221.

³United States Bureau of the Census, Texas County Business Patterns: 1964. (Washington: Government Printing Office, 1965), p. 45-2.

⁴Ibid., pp. 45-81-88.

TABLE II
COMPARISON OF PERCENT OF EMPLOYEES
BY INDUSTRY WITH SAMPLE

Classification	U. S.	Texas	Harris County	Sample
Mining	1.3	4.7	2.9	4.25
Construction	6.3	8.6	8.5	7.23
Manufacturing	35.5	24.7	28.1	21.73
Transportation and Public Utilities	8.1	8.3	9.8	11.06
Wholesale and Retail Trade	26.0	31.0	26.5	26.80
Finance, Insurance, and Real Estate	6.1	6.8	6.4	8.93
Service and Miscellaneous	17.6	15.9	17.8	20.00

Questionnaires were mailed to Harris County members of AMS, ARMA, DPMA, NSA, and SPA. Table III, page 37, shows the distribution of returns. Of the 813 questionnaires mailed, 79 (9.71 percent) were undeliverable: addressee moved, retired, no longer with company, or deceased. Up to 10 percent undeliverable letters can be tolerated in a mailing list.⁵ Therefore, these 79 were not included when computing the total percent returned. Boyd and Lesikar concur that a 10 percent return is average.⁶ The Appendices list the specific answers given to questions concerning the subjective aspect. This chapter summarizes the subjective aspects of the position.

II. TYPICAL DECISIONS AND PROBLEMS

AMS. Personnel policies rank as major responsibilities of AMS members. Hiring, firing, work loads, selection, training, motivation, and records are all mentioned frequently. Accounting is also a major responsibility. Procedures, budgets, forecasts, errors, and the preparation and approval of financial reports are listed. Since the phrase "problems responsible for solving" was used in the question, it is assumed that is the reason personnel and accounting seemed so prevalent.

ARMA. As could be expected, ARMA members are responsible

⁵Ibid., p. 72.

⁶William P. Boyd and Raymond V. Lesikar, Productive Business Writing (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959), p. 411.

TABLE III
QUESTIONNAIRE SURVEY RETURNS

Group	Mailed		Returned	
	No.	%	No.	%
AMS	142	17.46	40	17.02
ARMA	50	6.15	20	8.51
DPMA	277	34.07	70	29.78
NSA	257	31.61	70	29.78
SPA	87	10.70	35	14.89
TOTALS	813	100.00	235	32.01

for many decisions and problems pertaining to records management. A definite relationship is shown between ARMA and SPA positions, as ARMA members mention responsibilities for maintaining systems and procedures involving records management.

Decisions and problems also include selecting and arranging office furniture, equipment, and accessories. Among personnel activities included are selection, training, and evaluation.

DPMA. Computer technology is involved in many decisions and problems faced by DPMA members. Since data processing cuts across an entire organization, it is mentioned in connection with accounting, finance, personnel, equipment, sales, planning, and work flow. New systems and modern equipment represent change, and change seems to characterize the normal decisions and problems of DPMA members. Personnel is involved since they must be retrained and reassigned to accomplish work as quickly and efficiently as possible.

NSA. Screening phone calls and visitors seems to be a typical problem. Handling paper work, scheduling meetings, making travel arrangements, and making allowances for different work loads are also frequently mentioned. No typical decisions or problems were indicated by 19 percent of the NSA members.

SPA. SPA members are involved in designing, recommending, and utilizing systems and procedures for a variety of business

endeavors including reports, equipment, personnel, accounting, data processing, purchasing, inventory, and forecasting. Constant change in searching for more efficient methods to achieve company goals seems to be the central theme of systems and procedures work. Technical decisions are necessary, but a large emphasis is on decisions involving personnel activities and communicating necessary change to personnel. Since systems and procedures activities involve initiating changes and coordinating these changes throughout the entire organization, there is a constant need for personnel to be informed and understand business policy and to maintain rapport with all personnel.

III. SPAN OF CONTROL AND POSITION TENURE

Appendix B lists the respondents' titles. Several AMS members seem to be top-level management. The title "manager" is used frequently for the AMS group. ARMA, DPMA, NSA, and SPA members' titles reflect their position; examples: records analyst, EDP manager, executive secretary, and systems analyst.

Appendix C lists titles of respondents' immediate supervisors. Most of the respondents in this study answer to top-level management reflected by such titles as president, vice president, controller, owner, and regional manager.

Table IV, page 40, shows the average span of control and average years in the position for each organization. AMS members have five times as many under their delegated supervision

TABLE IV
SPAN OF CONTROL AND POSITION TENURE

Group	<u>Direct Supervision</u>		<u>Delegated Supervision</u>		Mean Yrs. In Position
	<u>Mean</u>	<u>% with None</u>	<u>Mean</u>	<u>% with None</u>	
AMS	11.0	0	54.0	33	7.38
ARMA	14.0	10	10.0	65	5.4
DPMA	8.0	19	11.0	56	4.27
NSA	.7	66	.3	89	7.99
SPA	5.0	14	11.0	66	3.86

as the members of the other organizations. NSA averaged less than one employee under direct and delegated supervision reflecting very little authority over other employees. However, nearly all NSA members work for top-level management such as company officers. This association with top management may motivate a professional attitude as reflected by NSA membership.

Contrary to popular belief that women employees have a high turnover, Table IV shows that of the five organizations included in the study, NSA members who are all female have the highest average number years in their positions (7.99) of all surveyed organizations. Because they work for top-level management, NSA members have probably worked years to achieve their positions. AMS members follow closely with 7.38 average years. Since AMS members reflect more authority in their answers, it can be concluded that they have spent years working to achieve their positions. ARMA averaged 5.4 years; DPMA, 4.27; and SPA, 3.86. These organizations reflect the newest areas of business specialization; probably accounting for fewer average years in positions.

IV. CREATIVE ASPECT

AMS. Creation of better methods and procedures in order to accomplish all sorts of work is evident. These procedures touch many phases of the organization: statistical surveys, new forms, new customer services, office systems, layout improve-

ments, long-range planning, and evaluations. The survey shows that AMS members are constantly looking for better and more efficient ways of completing operations in order to increase revenue and reduce cost.

ARMA. Study and design are emphasized under creative aspects. Study not only touches the organization of records but also office procedures, layout and personnel administration. Designing and improving systems are major creative aspects.

DPMA. Organization and design of systems represents much of the creative work. DPMA members offer creative advice to many departments in the company in order to help them. The ability to recognize the needs of the company's different departments and the needs of clients is important in order to design new systems and programs to meet these needs.

NSA. No creative aspect was indicated by 39 percent of NSA members. Some compose letters and collect information to begin reports.

SPA. Certainly creativity is one of the highest forms of man's activities. One response states that creativity is the essence of the position. Another states that creative thinking is inherent in and mandatory for successful systems work. Origination, innovation, creation, design, and development are all commonly found SPA responses in the area of cre-

ative aspects. These aspects include adapting ever-changing technical equipment to serving company objectives. Research is necessary in order to test not only technical equipment but also proposed procedures. Oral and written communication is used to implement research throughout the organization and to maintain contact with outside agencies that do consulting and produce technical equipment.

V. AUTHORITY TO IMPLEMENT PROGRAMS

AMS. As shown by the questionnaire, AMS members have authority to implement changes that will improve their programs. Major changes involving company policy need board approval. However, 80 percent of the AMS members indicated the authority to implement programs. Since keeping up to date and up-grading methods are regular responsibilities, AMS members must have the authority to implement programs.

ARMA. Most ARMA members (85 percent) are authorized to implement programs or actions without obtaining prior approval within the limits of their own department. Major programs or actions affecting other departments or the entire organization would require approval. New programs include records management along with personnel, sales, and company educational programs.

DPMA. Many DPMA members (75 percent) indicated they

were authorized to implement new programs. Since data processing is such a new field, the DPMA members seem to be the most knowledgeable in the company. Therefore, they have authority to implement programs that touch many other areas as well as their own departments. Many times conferences are necessary with department heads affected by the introduction of data processing.

NSA. Over half (55 percent) of the NSA members indicated no authority to implement programs. Clerical routines related to their duties which include much paper work may be initiated.

SPA. Seventy-seven percent of the SPA members are authorized to implement programs. However, there are limitations of departments, policies, daily routines, and equipment. The programs involve the selection, purchasing, installation, and use of equipment. Programs to study new systems and procedures are not only authorized but encouraged.

VI. RESPONSIBILITY FOR EQUIPMENT AND PROPERTY

AMS. "All" is noticed as a word used frequently in the AMS members answers to their responsibility for equipment and property. Of the 87 percent who indicated that they handled this responsibility, 43 percent used the word "all" in their response. Office machines, furniture, fixtures, building, and automobiles are mentioned.

ARMA. Much modern records management equipment is listed. Also included are office machines, furniture, and supplies. With the responsibility for maintaining supplies and with all the new technical records management equipment on the market, it is necessary for ARMA members to keep abreast of changes in these areas. Since 85 percent indicated a responsibility in this area, company equipment seems to be a major responsibility.

DPMA. Computers and peripheral equipment are listed many times among the equipment that falls under DPMA members' responsibilities. This heavy equipment responsibility (75 percent) can again be attributed to the fact that DPMA members are the most knowledgeable in the company about the equipment.

NSA. Many NSA members (84 percent) are responsible for some office equipment. Typewriters are mentioned most frequently.

SPA. Seventy-one percent of the SPA members indicated they were responsible for equipment. Data processing equipment and supplies were mentioned most frequently along with office furniture and equipment.

VI. NEED TO CONTINUE FORMAL EDUCATION

AMS. More than half (64 percent) of the AMS members indicated that they felt the need to continue their education. Data processing is mentioned frequently. Management courses

are also cited as necessary. Seminars and conventions are considered valuable by AMS members as ways of obtaining valuable education.

ARMA. Only 40 percent of the ARMA members surveyed expected to continue formal education. Records management and systems and procedures courses appear as likely choices. University-level records management courses are new, not offered every semester, sometimes held during the day, and do not, as yet, have graduate status. These reasons may account for the relatively low percentage.

DPMA. Again 75 percent of the DPMA members indicated they planned to continue their formal education. Math and management were mentioned most frequently. New equipment will be appearing continually, and DPMA members seem aware that they must continually keep abreast of this new equipment. And with the new equipment comes an awareness to keep up with new data processing techniques.

NSA. Seventy-five percent of the NSA members indicated that they planned to continue their formal education. The CPS designation is emerging as a goal. A desire to keep up to date and refresh skills is also indicated. The secretary is finding a more comprehensive company role. This is shown by the desire to take management courses in order to develop a better understanding of the entire organization.

SPA. Seventy-four percent of the SPA members stated their intention to continue their formal education. A graduate degree and management courses were listed frequently. Mathematics and computer science also seem important.

Courses considered to be of value. Respondents indicated the following courses were of value in preparing students for jobs like theirs. Courses listed to be checked were systems and procedures, records management, data processing, communications, and office services. Systems and procedures was far above the others, as it was checked by 80 percent of the respondents. Communications was second with 64 percent, and the others followed closely: records management, 61 percent; data processing, 59 percent; and office services, 57 percent. Table V, page 48, indicates the exact responses.

VIII. VIEWING THE FUTURE

AMS. Greater mechanization will expand the future for AMS members to more comprehensive management as computers release more and more information for executive decision making. Some AMS members interpret the future in terms of specific promotions for themselves to higher management levels. Governmental regulations play a part in the future.

ARMA. The future looks bright with interesting career changes in sight for ARMA members. A broader impact on the

TABLE V
VALUABLE COURSES TO PREPARE FOR RESPONDENTS' POSITIONS

Group	1		2		3		4		5		Total
AMS	32	80%	28	70%	20	50%	30	75%	27	68%	40
ARMA	18	90%	20	100%	7	35%	12	60%	15	75%	20
DPMA	63	90%	32	46%	65	93%	34	49%	19	27%	70
NSA	42	60%	44	63%	14	20%	53	76%	59	84%	70
SPA	34	97%	19	54%	33	94%	21	60%	15	43%	35
TOTALS	189	80%*	143	61%	139	59%	150	64%	135	57%	235

*Percents listed on "Totals" line are the mean %'s for that column.

- 1 Systems and Procedures
- 2 Records Management
- 3 Data Processing
- 4 Communications
- 5 Office Services

company is in sight. More and better equipment will continue as a trend.

DPMA. DPMA members feel their position is an excellent "stepping stone" to top managerial positions. They also feel that data processing will arrive in top-level management. Therefore, their future is characterized by growth of responsibility. Hard work and pressure to complete work is evident, but salary compensation is good.

NSA. More responsibility on the management level is becoming a reality for NSA members. The secretary is receiving better positions and compensation along with her company. Automation is eliminating many clerical duties and helping to put the secretary on the supervisory level.

SPA. SPA members were optimistic about the future. Their answers were characterized by such remarks as "unlimited future," "overall growth," "tremendous with no end in sight," and "constant opportunity and expansion." Therefore, careful planning for the future is necessary entailing a knowledge and use of statistics. Computers are noted to have played a part in present business expansion. They will play a large part not only in future business expansion but also in their own future growth. The function and scope of systems and procedures are expected to grow thereby increasing the need for a better understanding of management's viewpoint. Some SPA

members could recognize specific future promotions. The systems and procedures field will become more and more sophisticated, so that SPA members realize they will always need to stay abreast of technological changes.

IX. SUMMARY

AMS, ARMA, DPMA, NSA, and SPA could all list separate typical decisions and problems, span of control and position tenure, creative aspects, authority to implement programs, responsibility for equipment and property, need to continue formal education, and future aspects. These areas have been discussed to better identify the positions reflected by the job duties in Chapter IV.

CHAPTER IV

PART II: FINDINGS

Administrative management textbooks were reviewed to determine duties performed by personnel. Fifty-nine duties were selected and listed on the questionnaire (see Appendix A). Respondents were asked to rank the duties as M for major, O for occasional, or to disregard those that did not apply to them. M was assigned a numerical weight of four; O, one; and those disregarded, none. Each duty's assigned rank by the 235 respondents was totaled; this total can be termed an "importance score" for each duty. Table VI, pages 52-55, identifies the duties and groups them into six course areas: administrative management, systems and procedures, records management, communications, data processing, and office services.

I. THE COMPUTER APPROACH

An Autocoder program was written for the IBM 1401 at the University of Houston Computer Center. Cards were punched designating the organization, industrial classification, and duty rankings for each respondent. The computer figured the total "importance score," the mean duty "importance score," F-ratios, and t-tests for each organization and for each industrial classification.

TABLE VI

DUTIES PERFORMED BY RESPONDENTS GROUPED ACCORDING TO
COURSE AREAS

Duty No.	Duty
<u>Administrative Management</u>	
6	Coordinate the work of the office with that of other units.
7	Select and utilize office electronic machines.
8	Handle the training and transferring of employees in keeping with mechanization plans.
9	Keep informed on latest developments in performing office work.
10	Specify and purchase office furniture, machines, and supplies.
11	Determine effective work environment - adequate lighting, elimination of noise, and proper ventilation.
12	Select the office location.
13	Keep office costs within acceptable limits.
14	Prepare office budgets.
15	Write office manuals.
16	Establish definite and know relationships among organizational units.
17	Know the individual jobs in the office.
18	Assign the proper personnel to organizational units.
19	Delegate authority.
20	Fix responsibility among personnel.
21	Provide for proper work facilities.

TABLE VI (Cont.)

DUTIES PERFORMED BY RESPONDENTS GROUPED ACCORDING TO
COURSE AREAS

Duty No.	Duty
22	Motivate office employees.
23	Give adequate supervision.
24	Administer office salary plan.
25	Promote office safety.
26	References on new employees.
<u>Systems and Procedures</u>	
27	Develop the format for information derived from machines.
28	Develop office systems.
29	Develop office procedures.
30	Develop office methods.
31	Apply work simplification to office work.
32	Arrange the office layout-location of office furniture and machines.
33	Time-study office operations.
34	Apportion the work among the organizational units.
35	Maintain proper balance among the various office activities.
36	Analyze and evaluate office jobs.
37	Peak work load handling.
38	Suggestion system.
39	Design and use of office forms.

TABLE VI (Cont.)

DUTIES PERFORMED BY RESPONDENTS GROUPED ACCORDING TO
COURSE AREAS

Duty No.	Duty
<u>Records Management</u>	
40	Handle incoming and outgoing mail.
41	Maintain papers of permanent value.
42	Destroy obsolete papers.
47	File records.
<u>Communications</u>	
43	Provide adequate communications among office employees and between office and nonoffice units.
44	Composing letters or interoffice memos.
45	Writing reports.
46	Transact business over the telephone.
<u>Data Processing</u>	
48	Establish integrated data processing (IDP).
49	Computer analysis and programming.
50	Operation of computer.
51	Determination and application of source data automation.
52	Filing and storage of media-punched cards, punched tape, magnetic tape.
53	Calculating statistical reports.
54	Confer with computer programmer as to what should be handled by the computer.

TABLE VI (Cont.)

DUTIES PERFORMED BY RESPONDENTS GROUPED ACCORDING TO
COURSE AREAS

Duty No.	Duty
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55	Research.
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Office Services

56	Establish standards for office work.
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57	Schedule and dispatch office work.
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58	Maintain quality of office work.
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59	See that stenographic work is performed.
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60	Supply reception service.
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61	Supply messenger service.
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62	Billing.
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63	Telegraph, telephone, cable.
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64	Calculating data for reports.
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II. SIGNIFICANT DIFFERENCES

Table VII, pages 57-59, lists the duty means for the five organizations with significant F-ratios from the analyses of variance. There are forty-six significant F-ratios among the fifty-nine duties for the five organizations. These forty-six F-ratios were used to build a curriculum for each of the five organizations. Table VIII, pages 60-62, lists the duty means for the seven Standard Industrial Classifications with significant F-ratios from the analyses of variance. There are only seven significant F-ratios among the fifty-nine duties for the seven Standard Industrial Classifications. These seven significant F-ratios were not sufficient to build separate curricula.

Existing significant differences were computed for the duties that showed significant F-ratios by using t-tests. As an example, in Table VII duty six had no significant F-ratio; therefore, no significant differences are shown between organization pairs. Duty seven showed a significant F-ratio; therefore, significant differences are noted between AMS (1) and DPMA (3), AMS (1) and SPA (5), ARMA (2) and DPMA (3), DPMA (3) and NSA (4), and NSA (4) and SPA (5). The organization with the larger mean is the one that engages in that duty more than the others. Duty seven, selecting and utilizing office elec-

TABLE VII

COMPARISON OF MEANS FOR FIVE ORGANIZATIONS
SHOWING WHERE SIGNIFICANT DIFFERENCES LIE

Duty	1 AMS	2 ARMA	3 DPMA	5 NSA	5 SPA	F*	Significant Differences Exist Between
6	3.25	2.85	2.97	2.66	2.86	.85	
7	.95	1.00	1.89	.67	1.94	7.88*	1-3, 1-5, 2-3, 3-4, 4-5
8	1.40	1.20	1.86	.49	1.20	7.15*	1-4, 2-4, 3-4, 3-5, 4-5
9	2.93	2.75	2.21	3.30	2.54	3.99*	1-3, 3-4, 4-5
10	2.13	1.70	1.16	2.11	1.03	5.55*	1-3, 1-5, 3-4, 4-5
11	1.68	1.35	.84	1.39	.97	2.52*	1-3, 1-5, 3-4
12	1.30	.55	.44	.37	.34	5.97*	1-3, 1-4, 1-5
13	3.08	2.05	2.10	1.79	1.57	4.05*	1-2, 1-3, 1-4, 1-5
14	2.18	1.20	1.64	.89	1.14	4.26*	1-4, 1-5, 3-4
15	1.33	1.75	1.69	.79	2.11	5.17*	1-5, 2-4, 3-4, 4-5
16	1.73	1.55	1.97	1.41	2.40	1.96	
17	2.58	3.25	2.37	2.70	2.17	1.46	
18	2.20	1.85	1.37	.43	1.06	9.09*	1-3, 1-4, 1-5, 2-4, 3-4, 4-5
19	2.70	2.35	2.40	.73	1.89	12.68*	1-4, 1-5, 2-4, 3-4, 4-5
20	3.10	2.70	2.49	.77	2.14	16.66*	1-4, 1-5, 2-4, 3-4, 4-5
21	2.50	2.10	1.50	1.13	1.31	4.90*	1-3, 1-4, 1-5, 2-4
22	2.65	2.30	2.39	1.61	2.37	2.81*	1-4, 3-4, 4-5
23	3.40	3.10	2.89	1.33	2.49	12.98*	1-4, 1-5, 2-4, 3-4, 4-5
24	2.30	1.20	1.44	.57	1.20	7.34*	1-2, 1-3, 1-4, 1-5, 3-4, 4-5
25	1.15	1.60	.60	1.04	.74	2.50*	1-3, 2-3

*F-ratios from analysis of variance significant at .05 level or better.

TABLE VII (Cont.)

COMPARISON OF MEANS FOR FIVE ORGANIZATIONS
SHOWING WHERE SIGNIFICANT DIFFERENCES LIE

Duty	1 AMS	2 ARMA	3 DPMA	4 NSA	5 SPA	F*	Significant Differences Exist Between
26	1.25	1.35	.66	.77	.51	2.72*	1-3, 1-5, 2-3, 2-5
27	.88	.95	2.51	.53	2.54	21.40*	1-3, 1-5, 2-3, 2-5, 3-4, 4-5
28	1.55	1.75	2.11	1.11	3.03	8.67*	1-5, 2-5, 3-4, 3-5, 4-5
29	1.53	2.00	2.27	1.79	2.91	3.71*	1-3, 1-5, 4-5
30	1.43	2.05	2.11	1.64	2.69	3.18*	1-3, 1-5, 4-5
31	1.23	1.70	1.74	1.94	1.74	1.10	
32	1.63	1.30	.93	1.01	.69	2.55*	1-3, 1-4, 1-5
33	.90	1.40	.86	.53	.86	1.80	
34	1.50	.90	.80	.33	1.11	4.80*	1-3, 1-4, 2-4, 3-4, 4-5
35	1.80	1.35	1.23	1.09	1.09	1.25	
36	1.75	1.75	1.31	.81	2.06	4.21*	1-4, 2-4, 3-5, 4-5
37	1.30	1.10	1.56	1.34	.83	27.33*	1-5, 3-5, 4-5
38	.50	1.40	.60	.64	.60	2.02	
39	1.35	1.45	1.67	1.26	2.51	4.18*	1-5, 2-5, 3-5, 4-5
40	1.18	1.40	.59	3.69	.34	68.66*	1-3, 1-4, 1-5, 2-3, 2-4, 2-5, 3-4, 4-5
41	1.58	2.85	1.16	3.40	.71	28.33*	1-2, 1-4, 1-5, 2-3, 2-5, 3-4, 4-5
42	1.18	2.50	.81	2.63	.54	21.02*	1-2, 1-4, 1-5, 2-3, 2-5, 3-4, 4-5
43	2.05	2.05	1.71	1.77	1.51	.54	
44	2.18	2.55	2.24	3.23	1.86	5.91*	1-4, 3-4, 4-5
45	1.98	2.40	2.09	1.97	2.03	.28	

*F-ratios from analysis of variance significant at .05 level or better.

TABLE VII (Cont.)

COMPARISON OF MEANS FOR FIVE ORGANIZATIONS
SHOWING WHERE SIGNIFICANT DIFFERENCES LIE

Duty	1 AMS	2 ARMA	3 DPMA	4 NSA	5 SPA	F*	Significant Differences Exist Between
46	2.68	3.30	2.39	3.47	2.17	6.62*	1-4, 2-3, 2-5, 3-4, 4-5
47	1.00	1.75	.60	3.31	.69	43.69*	1-4, 2-3, 2-4, 2-5, 3-4, 4-5
48	.03	.30	2.24	.03	2.77	52.31*	1-3, 1-5, 2-3, 2-4, 2-5, 3-4, 4-5
49	.03	.10	2.41	.03	2.37	51.94*	1-3, 1-5, 2-3, 2-5, 3-4, 4-5
50	.05	.05	1.19	.03	.63	17.32*	1-3, 1-5, 2-3, 2-5, 3-4, 3-5, 4-5
51	.33	.10	1.89	.03	2.31	33.92*	1-3, 1-4, 1-5, 2-3, 2-5, 3-4, 4-5
52	.13	.80	1.43	.09	.66	12.95*	1-2, 1-3, 1-5, 2-4, 3-4, 3-5, 4-5
53	.55	.35	.79	.47	.86	1.21	
54	.68	.50	2.23	.11	2.63	31.04*	1-3, 1-4, 1-5, 2-3, 2-4, 2-5, 3-4, 4-5
55	.30	1.35	.99	.56	1.34	4.22*	1-2, 1-3, 1-5, 2-4, 4-5
56	1.23	2.35	1.39	1.74	1.17	2.15	
57	1.38	2.45	1.53	1.84	.83	3.27*	1-2, 2-3, 2-5, 3-5, 4-5
58	2.38	2.60	1.93	2.90	1.17	5.86*	1-5, 2-5, 3-4, 3-5, 4-5
59	1.30	1.30	.56	2.07	.66	9.45*	1-3, 1-4, 2-3, 3-4, 4-5
60	.85	1.35	.23	1.74	.37	11.45*	1-3, 1-4, 2-3, 2-5, 3-4, 4-5
61	.58	1.30	.37	.93	.29	3.45*	2-3, 2-5, 3-4, 4-5
62	.68	.60	.73	.87	.14	1.71	
63	.68	1.25	.41	2.40	.46	19.41*	1-4, 2-3, 2-4, 3-4, 4-5
64	.68	.80	.84	.87	.54	.41	

*F-ratios from analysis of variance significant at .05 level or better.

TABLE VIII

COMPARISON OF MEANS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATION GROUPS
SHOWING WHERE SIGNIFICANT DIFFERENCES LIE

Duty	1*	2*	3*	4*	5*	6*	7*	F**	Significant Differences Exist Between
6	3.10	3.00	2.69	3.15	2.77	2.81	3.10	.46	
7	1.00	1.18	1.18	1.04	1.29	1.29	1.69	.70	
8	.50	1.41	1.12	1.23	1.16	1.33	1.42	.55	
9	2.90	3.06	2.49	3.12	2.58	3.14	2.75	.79	
10	1.20	2.35	1.43	1.42	1.69	1.05	1.98	1.73	
11	1.00	1.88	.92	1.46	1.18	1.05	1.29	1.08	
12	.40	1.18	.55	.12	.60	.19	.75	2.34**	2-4, 3-4, 4-5, 2-6, 4-7, 6-7
13	2.50	2.94	1.51	1.77	2.19	1.76	2.50	2.16	
14	1.70	1.82	1.08	1.19	1.61	.95	1.54	.99	
15	1.80	1.41	1.37	1.35	1.26	1.52	1.63	.34	
16	1.40	2.06	1.63	1.81	1.52	1.81	2.29	1.01	
17	1.90	3.59	2.12	2.77	2.60	2.33	2.69	1.88	
18	.90	1.71	1.00	1.19	1.10	1.29	1.52	.74	
19	2.00	2.76	1.22	2.04	1.85	2.14	2.04	1.99	
20	2.00	2.47	1.80	2.42	1.92	1.71	2.27	.75	
21	1.10	2.00	1.57	1.85	1.50	1.05	1.75	.80	
22	1.90	2.06	1.96	2.92	2.02	1.95	2.48	1.27	
23	2.20	2.53	2.25	2.77	2.27	2.57	2.77	.61	
24	1.30	1.18	.98	1.38	1.35	1.05	1.54	.54	
25	.90	1.47	.37	1.50	.90	.43	1.29	3.42**	2-3, 3-4, 3-5, 2-6, 3-7, 4-6, 6-7

**F-ratios from analysis of variance significant at .05 level or better.

1* Mining 4* Transportation and
2* Construction Public Utilities 6* Finance, Insurance, and Real Estate
3* Manufacturing 5* Wholesale and Retail 7* Service and Miscellaneous
Trade

TABLE VIII (Cont.)

COMPARISON OF MEANS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATION GROUPS
SHOWING WHERE SIGNIFICANT DIFFERENCES LIE

Duty	1*	2*	3*	4*	5*	6*	7*	F**	Significant Differences Exist Between
26	.40	1.47	.57	.69	.90	.48	1.10	1.91	
27	1.50	1.47	1.82	.88	1.53	1.52	1.52	.81	
28	1.20	1.59	1.96	1.35	1.68	2.00	2.27	1.26	
29	.90	1.52	2.20	2.23	1.89	1.86	2.63	2.03	
30	.90	1.59	1.92	1.85	1.94	1.86	2.38	1.19	
31	1.60	1.41	1.55	1.65	1.69	1.81	2.02	.43	
32	.30	1.94	1.02	1.19	1.13	.52	1.06	2.19	
33	.50	.94	.69	.54	.79	1.33	.92	.92	
34	.80	.88	.86	.88	.66	1.05	.90	.24	
35	1.20	.76	.37	1.46	1.02	.76	1.81	1.64	
36	1.00	1.53	1.02	1.42	1.16	1.52	2.02	1.82	
37	.60	1.29	1.10	1.08	1.56	1.05	1.56	.94	
38	.30	.94	.35	.38	.68	.52	1.17	2.46**	2-3, 3-7, 4-7
39	1.20	2.94	1.82	1.19	1.47	1.14	1.56	3.03**	1-2, 2-3, 2-4, 2-5, 2-6, 2-7
40	1.30	2.18	1.37	1.73	1.84	1.29	1.67	.72	
41	2.10	2.76	1.73	2.04	2.00	1.48	2.08	.96	
42	1.40	1.82	1.53	1.81	1.52	1.10	1.46	.45	
43	1.50	2.35	1.49	1.69	1.84	1.57	2.04	.76	
44	2.00	2.88	2.24	2.38	2.60	2.43	2.69	.67	
45	1.60	2.29	2.00	1.92	1.82	1.95	2.52	1.03	

**F-ratio from analysis of variance significant at .05 level or better

1* Mining

2* Construction

3* Manufacturing

4* Transportation and
Public Utilities

5* Wholesale and Retail
Trade

6* Finance, Insurance, and Real Estate

7* Service and Miscellaneous

TABLE VIII (Cont.)

COMPARISON OF MEANS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATION GROUPS
SHOWING WHERE SIGNIFICANT DIFFERENCES LIE

Duty	1*	2*	3*	4*	5*	6*	7*	F**	Significant Differences Exist Between
46	2.40	3.59	2.80	2.88	2.85	1.90	2.90	1.95	
47	1.70	2.06	1.49	1.73	1.47	1.33	1.69	.39	
48	.90	1.06	1.29	.62	1.16	1.24	1.17	.52	
49	.50	1.00	1.33	.69	1.18	1.33	1.00	.73	
50	.10	.47	.37	.42	.60	.57	.46	.46	
51	.60	1.06	.94	.88	1.06	.95	1.02	.16	
52	.50	.35	.55	.81	.77	.48	.67	.41	
53	.60	.59	.75	.23	.76	.62	.56	.69	
54	.90	1.35	1.22	.92	1.23	1.48	1.42	.36	
55	.90	.88	.63	.77	.60	1.14	1.19	1.13	
56	.50	1.35	1.31	1.85	1.32	1.29	2.17	2.18	
57	.90	2.06	1.33	1.35	1.73	1.14	1.90	1.17	
58	2.00	2.35	1.63	2.54	2.21	2.14	2.81	1.74	
59	.50	2.24	.73	1.08	1.11	.81	1.90	3.94**	1-2, 2-3, 2-4, 2-5, 1-7, 2-6, 3-7,
60	.40	1.59	.73	.96	.85	.43	1.19	1.45	5-7, 6-7
61	.10	1.24	.69	.46	.53	.24	.90	1.60	
62	.00	1.29	.35	.31	.68	.48	1.17	2.94**	1-2, 2-3, 2-4, 1-7, 3-7, 4-7
63	.60	2.12	.98	.50	1.26	.67	1.42	2.37**	1-2, 2-3, 2-4, 4-5, 2-6, 4-7
64	.60	.82	.76	.73	.73	.43	1.04	.54	

**F-ratios from analysis of variance significant at .05 level or better.

1* Mining

2* Construction

3* Manufacturing

4* Transportation and

Public Utilities

5* Wholesale and Retail
Trade

6* Finance, Insurance, and Real Estate

7* Service and Miscellaneous

tronic machines, showed a mean of .95 for AMS and 1.89 for DPMA. Therefore, DPMA members perform this duty significantly more than AMS members. Significant differences between two duties did not necessarily eliminate the lower from a curriculum if it were 1.0 or above.

III. THE CURRICULA

Table IX, pages 64-66, lists the means for each job duty "importance score" for the five organizations in descending order of importance. Table X, pages 67-69; shows the same information for the seven Standard Industrial Classifications. "Occasional" with a numerical weight of 1 was the lowest rating that the questionnaire respondents gave. In establishing a curricula for the five organizations, duties with a mean below 1.0 were not considered important enough for inclusion in the curricula.

Table XI, page 70, shows twenty-one duties listed in administrative management, thirteen in systems and procedures, four in records management, four in communications, eight in data processing, and nine in office services. The number of duties listed under each organization are those that have an "importance score" mean of 1.0 or above. NSA had none of the eight data processing duties listed in the study with a mean "importance score" of 1.0 or above. Those courses that showed over 50 percent of the duties with a 1.0 or above "importance score" mean are indicated for inclusion in the curricula.

TABLE IX

IMPORTANCE SCORE MEANS FOR THE FIVE ORGANIZATIONS
IN DESCENDING ORDER OF IMPORTANCE

AMS		ARMA		DPMA		NSA		SPA		TOTAL	
Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean
23	3.40	46	3.30	6	2.97	40	3.69	28	3.03	6	2.90
6	3.25	17	3.25	23	2.89	46	3.47	29	2.91	46	2.80
20	3.10	23	3.10	27	2.51	41	3.40	6	2.86	9	2.75
13	3.08	41	2.85	20	2.49	47	3.31	48	2.77	17	2.55
9	2.93	6	2.85	49	2.41	9	3.30	30	2.69	44	2.49
19	2.70	9	2.75	19	2.40	44	3.23	54	2.63	23	2.47
46	2.68	20	2.70	22	2.39	58	2.90	9	2.54	58	2.24
22	2.65	58	2.60	46	2.39	17	2.70	27	2.54	22	2.19
17	2.58	44	2.55	17	2.37	6	2.66	39	2.51	13	2.09
21	2.50	42	2.50	29	2.27	42	2.63	23	2.49	29	2.07
58	2.38	57	2.45	44	2.24	63	2.40	16	2.40	20	2.05
24	2.30	45	2.40	48	2.24	10	2.11	22	2.37	45	2.05
18	2.20	19	2.35	54	2.23	59	2.07	49	2.37	41	1.97
14	2.18	56	2.35	9	2.21	45	1.97	51	2.31	30	1.94
44	2.18	22	2.30	28	2.11	31	1.94	17	2.17	19	1.87
10	2.13	21	2.10	30	2.11	57	1.84	46	2.17	28	1.83
43	2.05	13	2.05	13	2.10	13	1.79	20	2.14	43	1.79
45	1.98	30	2.05	45	2.09	29	1.79	15	2.11	16	1.79
35	1.80	43	2.05	16	1.97	43	1.77	36	2.06	31	1.71
36	1.75	29	2.00	58	1.93	56	1.74	45	2.03	40	1.64

TABLE IX (Cont.)

IMPORTANCE SCORE MEANS FOR THE FIVE ORGANIZATIONS
IN DESCENDING ORDER OF IMPORTANCE

AMS		ARMA		DPMA		NSA		SPA		TOTAL	
Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean
16	1.73	18	1.85	7	1.89	60	1.74	7	1.94	10	1.63
11	1.68	28	1.75	51	1.89	30	1.64	9	1.89	39	1.60
32	1.63	15	1.75	8	1.86	22	1.61	44	1.86	47	1.59
41	1.58	36	1.75	31	1.74	16	1.41	31	1.74	21	1.58
28	1.55	47	1.75	43	1.71	11	1.39	13	1.57	57	1.57
29	1.53	31	1.70	15	1.69	37	1.34	43	1.51	42	1.52
34	1.50	10	1.70	39	1.67	23	1.33	55	1.34	27	1.51
30	1.43	25	1.60	14	1.64	39	1.26	21	1.31	56	1.51
8	1.40	16	1.55	37	1.56	21	1.13	8	1.20	15	1.43
57	1.38	39	1.45	57	1.53	28	1.11	24	1.20	14	1.40
39	1.35	33	1.40	21	1.50	35	1.09	56	1.17	36	1.39
15	1.33	38	1.40	24	1.44	25	1.04	58	1.17	7	1.30
12	1.30	40	1.40	52	1.43	32	1.01	14	1.14	37	1.30
37	1.30	35	1.35	56	1.39	61	.93	34	1.11	24	1.27
59	1.30	55	1.35	18	1.37	14	.89	35	1.09	35	1.27
26	1.25	11	1.35	36	1.31	62	.87	18	1.06	54	1.25
31	1.23	26	1.35	35	1.23	64	.87	10	1.03	18	1.23
56	1.23	60	1.35	50	1.19	36	.81	11	.97	8	1.22
40	1.18	32	1.30	10	1.16	15	.79	33	.86	11	1.21
42	1.18	61	1.30	41	1.16	20	.77	53	.86	59	1.21

TABLE IX (Cont.)

IMPORTANCE SCORE MEANS FOR THE FIVE ORGANIZATIONS
IN DESCENDING ORDER OF IMPORTANCE

AMS		ARMA		DPMA		NSA		SPA		TOTAL	
Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean
25	1.15	59	1.30	55	.99	26	.77	57	.83	63	1.13
47	1.00	63	1.25	32	.93	19	.73	37	.83	48	1.12
7	.95	14	1.20	33	.86	7	.67	25	.74	49	1.09
33	.90	8	1.20	11	.84	38	.64	41	.71	32	1.07
27	.88	24	1.20	64	.84	24	.57	32	.69	51	.98
60	.85	37	1.10	42	.81	55	.56	47	.69	25	.93
54	.68	7	1.00	34	.80	27	.53	52	.66	60	.90
62	.68	27	.95	53	.79	33	.53	59	.66	55	.83
63	.68	34	.90	62	.73	8	.49	50	.63	26	.83
64	.68	52	.80	26	.66	53	.47	38	.60	34	.83
61	.58	64	.80	25	.60	18	.43	42	.54	33	.81
53	.55	62	.60	38	.60	12	.37	64	.54	64	.77
38	.50	12	.55	47	.60	34	.33	26	.51	38	.66
51	.33	54	.50	40	.59	54	.11	63	.46	62	.66
55	.30	53	.35	59	.56	52	.09	60	.37	61	.64
52	.13	48	.30	12	.44	48	.03	12	.34	52	.64
50	.05	49	.10	63	.41	49	.03	40	.34	53	.63
48	.03	51	.10	61	.37	50	.03	61	.29	12	.56
49	.03	50	.05	60	.23	51	.03	62	.14	50	.47

TABLE X

IMPORTANCE SCORE MEANS FOR THE SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
IN DESCENDING ORDER OF IMPORTANCE

Mining		Construction		Mnftrng.		Transp. and Pub. Util.		Trade		Fin., Ins., Real Estate		Serv. and Misc.	
Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean
6	3.10	17	3.59	46	2.80	6	3.15	46	2.85	9	3.14	6	3.10
9	2.90	46	3.59	6	2.69	9	3.12	6	2.77	6	2.81	46	2.90
13	2.50	9	3.06	9	2.49	22	2.92	17	2.60	23	2.57	58	2.81
46	2.40	6	3.00	23	2.25	46	2.88	44	2.60	44	2.43	23	2.77
23	2.20	13	2.94	44	2.24	17	2.77	9	2.58	17	2.33	9	2.75
41	2.10	39	2.94	29	2.30	23	2.77	23	2.27	19	2.14	17	2.69
19	2.00	44	2.88	17	2.12	58	2.54	58	2.21	58	2.14	44	2.69
20	2.00	19	2.76	45	2.00	20	2.42	13	2.19	28	2.00	29	2.63
44	2.00	41	2.76	22	1.96	44	2.38	22	2.02	22	1.95	45	2.52
58	2.00	23	2.53	28	1.96	29	2.23	41	2.00	45	1.95	13	2.50
17	1.90	20	2.47	30	1.92	19	2.04	30	1.94	46	1.90	22	2.48
22	1.90	10	2.35	27	1.82	41	2.04	20	1.92	29	1.86	30	2.38
15	1.80	43	2.35	39	1.82	45	1.92	29	1.89	30	1.86	16	2.29
14	1.70	58	2.35	20	1.80	21	1.85	19	1.85	16	1.81	28	2.27
47	1.70	45	2.29	41	1.73	30	1.85	40	1.84	31	1.81	20	2.27
31	1.60	59	2.24	16	1.63	56	1.85	43	1.84	13	1.76	56	2.17
45	1.60	40	2.18	58	1.63	16	1.81	45	1.82	20	1.71	41	2.08
27	1.50	63	2.12	21	1.57	42	1.81	57	1.73	43	1.57	19	2.04
43	1.50	16	2.06	31	1.55	13	1.77	10	1.69	15	1.52	43	2.04
16	1.40	22	2.06	42	1.53	40	1.73	31	1.69	27	1.52	31	2.02

TABLE X (Cont.)

IMPORTANCE SCORE MEANS FOR THE SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
IN DESCENDING ORDER OF IMPORTANCE

Mining		Construction		Mnftng.		Transp. and Pub. Util.		Trade		Fin., Ins., Real Estate		Serv. and Misc.	
Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean
42	1.40	47	2.06	13	1.51	47	1.73	28	1.68	36	1.52	36	2.02
24	1.30	57	2.06	43	1.49	43	1.69	14	1.61	41	1.48	10	1.98
40	1.30	21	2.00	47	1.49	31	1.65	37	1.56	54	1.48	57	1.90
10	1.20	32	1.94	10	1.43	25	1.50	27	1.53	8	1.33	59	1.90
28	1.20	11	1.88	15	1.37	11	1.46	16	1.52	33	1.33	35	1.81
35	1.20	14	1.82	35	1.37	35	1.46	42	1.52	47	1.33	21	1.75
39	1.20	42	1.82	40	1.37	10	1.42	21	1.50	49	1.33	47	1.69
21	1.10	18	1.71	49	1.33	36	1.42	39	1.47	7	1.29	7	1.69
7	1.00	28	1.59	57	1.33	24	1.38	47	1.47	18	1.29	40	1.67
11	1.00	30	1.59	56	1.31	15	1.35	24	1.35	40	1.29	15	1.63
36	1.00	60	1.59	48	1.29	28	1.35	56	1.32	56	1.29	37	1.56
18	.90	29	1.53	19	1.22	57	1.35	7	1.29	48	1.24	39	1.56
25	.90	36	1.53	54	1.22	8	1.23	15	1.26	39	1.14	24	1.54
29	.90	25	1.47	7	1.18	14	1.19	63	1.26	55	1.14	14	1.54
30	.90	26	1.47	8	1.12	18	1.19	54	1.23	57	1.14	18	1.52
48	.90	27	1.47	37	1.10	32	1.19	11	1.18	42	1.10	27	1.52
54	.90	8	1.41	14	1.08	39	1.19	49	1.18	10	1.05	42	1.46
55	.90	15	1.41	32	1.02	37	1.08	8	1.16	11	1.05	8	1.42
57	.90	31	1.41	36	1.02	59	1.08	36	1.16	21	1.05	54	1.42
34	.80	54	1.35	18	1.00	7	1.04	48	1.16	24	1.05	63	1.42

TABLE X (Cont.)

IMPORTANCE SCORE MEANS FOR THE SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
IN DESCENDING ORDER OF IMPORTANCE

Mining		Construction		Mnftng.		Transp. and Pub. Util.		Trade		Fin., Ins., Real Estate		Serv. and Misc.	
Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean	Duty No.	Mean
37	.60	56	1.35	24	.98	60	.96	32	1.13	34	1.05	11	1.29
51	.60	37	1.29	63	.98	54	.92	59	1.11	37	1.05	25	1.29
53	.60	62	1.29	51	.94	27	.88	18	1.10	14	.95	55	1.19
63	.60	61	1.24	11	.92	34	.88	51	1.06	51	.95	60	1.19
64	.60	7	1.18	34	.86	51	.88	35	1.02	59	.81	38	1.17
8	.50	12	1.18	64	.76	52	.81	25	.90	35	.76	62	1.17
33	.50	24	1.18	53	.75	55	.77	26	.90	63	.67	48	1.17
49	.50	48	1.06	59	.73	64	.73	60	.85	53	.62	26	1.10
52	.50	51	1.06	60	.73	26	.69	33	.79	50	.57	32	1.06
56	.50	49	1.00	33	.69	49	.69	52	.77	32	.52	64	1.04
59	.50	33	.94	61	.69	48	.62	53	.76	38	.52	51	1.02
12	.40	38	.94	55	.63	33	.54	64	.73	26	.48	49	1.00
26	.40	34	.88	26	.57	63	.50	38	.68	52	.48	33	.92
60	.40	55	.88	12	.55	61	.46	62	.68	62	.48	34	.90
32	.30	64	.82	52	.55	50	.42	34	.66	25	.43	61	.90
38	.30	35	.76	25	.37	38	.38	12	.60	60	.43	12	.75
50	.10	53	.59	50	.37	62	.31	50	.60	64	.43	52	.67
61	.10	50	.47	38	.35	53	.23	55	.60	61	.24	53	.56
62	.00	52	.35	62	.35	12	.12	61	.53	12	.19	50	.46

TABLE XI

COURSES SHOWING NUMBER OF DUTIES WITH MEAN "IMPORTANCE SCORES"
OF 1.0 OR ABOVE FOR THE FIVE ORGANIZATIONS

<u>Courses</u>	<u>Total Duties</u>	<u>AMS</u> <u>No. %</u>		<u>ARMA</u> <u>No. %</u>		<u>DPMA</u> <u>No. %</u>		<u>NSA</u> <u>No. %</u>		<u>SPA</u> <u>No. %</u>		<u>Total</u> <u>No. %</u>		<u>No. Times Used in Curricula</u>
Administrative Management	21	20	95*	20	95*	17	81*	11	52*	17	81*	17	81*	5
Systems and Procedures	13	10	77*	10	77*	9	69*	8	62*	9	69*	10	77*	5
Records Management	4	4	100*	4	100*	1	25*	4	100*	0	0	4	100*	4
Communications	4	4	100*	4	100*	4	100*	4	100*	4	100*	4	100*	5
Data Processing	8	0	0	1	13	6	75*	0	0	5	63*	3	38	2
Office Services	9	4	44	7	78*	3	33	6	67*	2	22	6	67*	3

*Included in the curricula.

Communications was the only course that had all its duties (100 percent) with a mean "importance score" above 1.5 for all five organizations. Data processing has only enough duty means with 1.0 or above to be included in the DPMA and SPA curricula. Administrative management, systems and procedures, and communications show enough duties with a 1.0 mean or above to be included in the curricula for all five organizations. Records management shows enough duties with a 1.0 mean or above to be included in the curricula for four organizations and office services in three.

Table XII, page 72, shows the office machines used by respondents. The electric typewriter (74 percent), ten-key adding machine (69 percent), copying machine (59 percent), and manual typewriter (50 percent) are used most. The offset printer (16 percent), addressograph (13 percent), and bookkeeping machine (10 percent) are the least used.

IV. SUMMARY

The computer was used entirely to show significant differences among the five organizations and the seven Standard Industrial Classifications and the most important duties. These differences indicate specific courses for different careers represented by the five organizations. Course content was also indicated by the significant differences.

TABLE XII
OFFICE MACHINES USED BY RESPONDENTS

Machine	No. Used	%
Electric typewriter	173	74
Ten-key adding machine	163	69
Copying machine	138	59
Manual typewriter	118	50
IBM Executive typewriter	81	34
Dictaphone	76	32
Postage meter	73	31
Key punch	66	28
Key-driven	63	27
Rotary calculator	58	25
Spirit duplicator	49	21
Offset printer	38	16
Addressograph	30	13
Bookkeeping machine	23	10

Chapter V presents the findings, conclusions, implications, and recommendations of the study.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This study was a comparison of duties performed by personnel associated with five organizations: Administrative Management Society, American Records Management Association, Data Processing Management Association, National Secretaries Association, and Systems and Procedures Association and by personnel employed in the seven Standard Industrial Classifications industries to determine whether specific curricula could be prepared for careers in each industry or for careers associated with each organization.

I. SUMMARY

Background of the study. Majoring in business is both timely and worthwhile. Five modern study areas have emerged that are worthy of consideration: administrative management, records management, communications, office services, and systems and procedures. These modern areas cut across an entire organization so that continued successful and efficient operation is dependent upon them. They may be termed as administrative management. This study was made to determine if specific careers need separate curricula and what this curriculum should prepare the student to do.

Summary of procedures. A questionnaire was mailed to Harris County members of AMS, ARMA, DPMA, NSA, and SPA. Personnel associated with these organizations are engaged in related careers. Respondents were asked questions about their positions. Fifty-nine duties were also listed. Respondents were asked to rank them as major, occasional, or to disregard those that did not apply to them. Major duties were given a numerical weight of four; occasional, one; and those disregarded, zero. The computer figured a total duty "importance score," the mean duty "importance score," F-ratios, and t-tests for each organization and for each industrial classification.

From the comparisons made on the basis of these data, conclusions were drawn regarding the advantages of preparing students to enter five modern business careers by counseling them into specific curricula for a specific career.

II. FINDINGS

From the data collected and analyzed, the following findings can be made as a result of this study. The order of the following list does not imply any significance or rank.

1. Typical decisions and problems faced by administrative management are personnel, finance, equipment selection, records maintenance, and new systems and procedures recommendations.

2. Administrative management personnel hold responsi-

ble positions as indicated by position titles and span of control.

3. Creativity is essential for success in administrative management.

4. Administrative management personnel have the authority to implement programs within their own areas. Programs that affect the overall organization must have company board approval.

5. Administrative management is responsible for selection and maintenance of equipment and property: office machines, furniture, fixtures, buildings, and automobiles.

6. Most administrative management personnel feel a need to keep abreast of current developments by continuing their formal education.

7. Effective communications are necessary for successful administrative management.

8. There is a need for properly trained records management personnel.

9. Office services personnel are necessary to maintain the growing emphasis on research.

10. Systems and procedures emphasize the best way for personnel to accomplish work.

11. Data processing has emerged to better integrate the entire organization through the release of more information for better management decisions.

12. Bright futures with rapid growth are viewed by administrative management.

13. AMS members appear to have more authority than the other organization members.

14. ARMA, DPMA, NSA, and SPA members' careers are specifically reflected by their answers.

15. It is possible to build and revise curricula by surveying modern position duties, evaluating them through a questionnaire, and studying them statistically by a system of numerical weights.

16. There are enough significant differences among the five organizations, AMS, ARMA, DPMA, NSA, and SPA, to develop a separate curriculum for each of the occupations they represent: administrative manager, records manager, data processing manager, secretary, and systems analyst.

17. There are not enough significant differences (only 7 out of the 59 duties) among the seven Standard Industrial Classifications to develop a separate curriculum for each industry. Administrative management personnel do not hold significantly different positions among the industries.

III. CONCLUSIONS

As a result of the findings of this study, which were based on the data collected and analyzed, the following conclusions are drawn:

1. The following core curriculum should be taken by students interested in these positions:

Administrative Manager:

- administrative management
- systems and procedures
- communications
- records management

Data Processing Manager:

- data processing
- systems and procedures
- administrative management
- communications
- records management

Records Manager:

- records management
- systems and procedures
- communications
- office services
- administrative management

Secretary

- office services
- communications
- records management
- systems and procedures
- administrative management

Systems Analyst:

systems and procedures
data processing
administrative management
communications

2. The administrative management course should include preparation for these duties:

Coordinate the work of the office with that of other units.

Keep informed on latest developments in performing office work.

Know the individual jobs in the office.

Give adequate supervision.

Motivate office employees.

Keep office costs within acceptable limits.

Fix responsibility among personnel.

Delegate authority.

Establish definite and know relationships among organizational units.

Specify and purchase office furniture, machines, and supplies.

Provide for proper work facilities.

Write office manuals.

Prepare office budgets.

Select and utilize office electronic machines.

Administer office salary plan.

Assign the proper personnel to organizational units.

Handle the training and transferring of employees in keeping with mechanization plans.

Determine effective work environment - adequate lighting, elimination of noise, and proper ventilation.

3. The systems and procedures course should include preparation for these duties:

Develop office procedures.

Develop office methods.

Develop office systems.

Apply work simplification to office work.

Design and use of office forms.

Develop the format for information derived from machines.

Analyze and evaluate office jobs.

Peak work load handling.

Maintain proper balance among the various office activities.

Arrange the office layout-location of office furniture and machines.

4. The records management course should include preparation for these duties:

Maintain papers of permanent value.

Handle incoming and outgoing mail.

File records.

Destroy obsolete papers.

5. The communications course should include preparation for these duties:

Transact business over the telephone.

Composing letters or interoffice memos.

Writing reports.

Provide adequate communications among office employees and between office and nonoffice units.

6. The data processing course should include preparation for these duties:

Confer with computer programmer as to what should be handled by the computer.

Establish integrated data processing (IDP).

Computer analysis and programming.

7. The office services should include preparation for these duties:

Maintain quality of office work.

Schedule and dispatch office work.

Establish standards for office work.

See that stenographic work is performed.

Telegraph, telephone, cable.

IV. IMPLICATIONS

Certain implications appear to be borne out by the data considered in this study. Among these are the following:

1. It is impractical and impossible from the standpoint of available time, money, and educational facilities to expect students to postpone all specialized education for business until graduate study.

2. Undergraduate curriculum may include a broad liberal arts background as well as business education.

V. RECOMMENDATIONS FOR FURTHER RESEARCH

The findings and conclusions in this study suggest the following recommendations for further research.

1. Junior college and secondary school business curricula should be based upon an analysis of the activities and experiences which will face students when they enter the business world.
2. An advisory committee from each organization should be used to help university curriculum committees determine actual duties that are being performed on the job.
3. A questionnaire made up of these duties should be sent out for rating and evaluation every three years in order to keep curricula current.

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APPENDICES

APPENDIX A

THE QUESTIONNAIRE

Dear _____ Member:

To help us in planning university courses to prepare students for positions in business, will you please answer the following questions about yourself?

I am conducting this research under the direction of Dr. Carlos K. Hayden, College of Business, The University of Houston. At present, I am on the faculty of the School of Business at Lamar State College of Technology, Beaumont, Texas.

This questionnaire is being mailed to all Harris County members of the Administrative Management Society, the American Records Management Society, the Data Processing Management Association, the National Secretaries Association, and the Systems and Procedures Association.

Because I have a deadline to meet for my supervising committee, I should appreciate very much your returning this questionnaire in the enclosed envelope by (date stamped) No signature is necessary.

I shall be grateful for your help.

In what type or classification of business are you employed?

What is your position title? _____

What is the position title of your immediate supervisor?

How many employees are (a.) under your direct supervision?

_____ (b.) under supervision which you have delegated to others? _____

Describe typical decisions you make or problems that you are responsible for solving.

Describe the creative aspect of your work. Do you originate any projects which are carried out by you or by others?

Are you authorized to implement programs or actions without obtaining prior approval? If so, what types?

What company equipment and/or property is in your area of responsibility?

How long have you been in your present job? _____

Please check any of the following areas that a student would need to prepare for a position like yours:

_____ Systems and Procedures	_____ Communications
_____ Records Management	_____ Office Services
_____ Data Processing	_____ Other _____

Do you feel a need to continue your formal education? _____
If so, what kind? _____

What do you see for the future in a position like yours?
Specific changes?

Mark any of the following activities that are Major personal activities for you by placing an M beside them. Rank any of the following activities that are Occasional personal activities for you by placing an O beside them. Disregard any activities that do not apply to you.

M = Major; O = Occasional.

- _____ Coordinate the work of the office with that of other units.
- _____ Select and utilize office electronic machines.
- _____ Handle the training and transferring of employees in keeping with mechanization plans.
- _____ Keep informed on latest developments in performing office work.
- _____ Specify and purchase office furniture, machines, and supplies.
- _____ Determine effective work environment - adequate lighting, elimination of noise, and proper ventilation.
- _____ Select the office location.
- _____ Keep office costs within acceptable limits.
- _____ Prepare office budgets.
- _____ Write office manuals.
- _____ Establish definite and know relationships among organizational units.
- _____ Know the individual jobs in the office.
- _____ Assign proper personnel to organizational units.
- _____ Delegate authority.
- _____ Fix responsibility among personnel.
- _____ Provide for proper work facilities.
- _____ Motivate office employees.
- _____ Give adequate supervision.
- _____ Administer office salary plan.
- _____ Promote office safety.
- _____ References on new employees.
- _____ Develop the format for information derived from machines.
- _____ Develop office systems.

M = Major; O = Occasional

- _____ Develop office procedures.
- _____ Develop office methods.
- _____ Apply work simplification to office work.
- _____ Arrange the office layout-location of office furniture and machines.
- _____ Time-study office operations.
- _____ Apportion the work among the organizational units.
- _____ Maintain proper balance among the various office activities.
- _____ Analyze and evaluate office jobs.
- _____ Peak work load handling.
- _____ Suggestion system.
- _____ Design and use of office forms.
- _____ Handle incoming and outgoing mail.
- _____ Maintain papers of permanent value.
- _____ Destroy obsolete papers.
- _____ Provide adequate communications among office employees and between office and nonoffice units.
- _____ Composing letters or interoffice memos.
- _____ Writing reports.
- _____ Transact business over the telephone.
- _____ File records.
- _____ Establish integrated data processing (IDP).
- _____ Computer analysis and programming.
- _____ Operation of computer.
- _____ Determination and application of source data automation.
- _____ Filing and storage of media-punched cards, punched tape, magnetic tape.

M = Major; O = Occasional

- _____ Calculating statistical reports.
- _____ Confer with computer programmer as to what should be handled by the computer.
- _____ Research.
- _____ Establish standards for office work.
- _____ Schedule and dispatch office work.
- _____ Maintain quality of office work.
- _____ See that stenographic work is performed.
- _____ Supply reception service.
- _____ Supply messenger service.
- _____ Billing.
- _____ Telegraph, telephone, cable.
- _____ Calculating data for reports.

Please check equipment that you or those under your direction operate.

- | | |
|--------------------------------|-------------------------------|
| _____ electric typewriter | _____ rotary calculator |
| _____ manual typewriter | _____ key-driven calculator |
| _____ IBM Executive typewriter | _____ ten-key adding machine |
| _____ spirit duplicator | _____ bookkeeping machine |
| _____ copying machine | _____ offset printing machine |
| _____ key punch | _____ addressograph |
| _____ dictaphone | _____ postage meter |

APPENDIX B

RESPONDENTS' POSITION TITLES AND TENURE

RESPONDENTS' POSITION TITLES AND TENURE

<u>Case</u>	<u>Title</u>	<u>No. Yrs. in Position</u>
	<u>AMS</u>	
A0	Manager, Employee Benefits and Compensation	6
A1	Office Manager	10
A2	Purchasing Agent; Manager Office Services	7
A3	President	28
A4	District Manager	27
A5	Supervisor, Office Services	4
A6	President	3
A7	Secretary-Treasurer	4
A8	Office Manager	5
A9	Vice President	1
0A	Manager, Accounting and Premium Finance	2
1A	Secretary-Treasurer	7
2A	Office Manager	12
3A	Administrative Manager (Branch Office)	2
4A	General Manager	2
5A	Consultant	21
6A	Branch Manager	2
7A	Senior Accountant, Bank Specialist	2
8A	General Sales Manager	15
9A	Supervisor, Office Services; Building Manager	1
B0	Accountant	11

RESPONDENTS' POSITION TITLES AND TENURE

96

B1	Office Manager	19
B2	Office Manager	4
B3	No answer	
B4	Director, Administration	2
B5	Resident Manager	3
B6	Division Accounting Supervisor	1
B7	Vice President and Treasurer	5
B8	Personnel Director	10
B9	Administrative Assistant to the Executive Director	2
OB	Manager, Billing Department	8
1B	Director of Office Services	20
2B	Vice President - Controller	5
3B	Chief Accountant, Office Manager	7
4B	Office Manager	6
5B	Office Service Supervisor	5
6B	Owner - Manager	21
7B	Assistant Office Manager	2
8B	Office Manager	1
9B	Teacher - Coordinator	2

ARMA

G0	Manager of Office Planning and General Office Services	3
G1	Manager, Building Services	16
G2	Supervisor, Records	8

RESPONDENTS' POSITION TITLES AND TENURE

97

G3	Supervisor, Records Department	10
G4	Office Manager - Secretary	1
G5	County Clerk	8
G6	Supervisor, Office Services	6
G7	Supervisor, Technical Files and Mail Room	7
G8	Records Administrator and Information Security Officer	11
G9	Administrative Specialist	6
OG	Supervisor of Central Records	1
1G	Vice President and Director of Personnel	1
2G	Records Consultant	3
3G	Records Analyst	2
4G	Head File Clerk	6
5G	District Manager	4
6G	Office Services Manager	No answer
7G	Branch Sales Manager	4
8G	Records Coordinator	6
9G	Owner	5

DPMA

J0	Junior Systems Analyst	2
J1	Supervisor - Computer Systems	2
J2	Mechanization Accountant	3
J3	Systems Analyst	1
J4	Data Sales Manager	1
J5	Production Supervisor	18

RESPONDENTS' POSITION TITLES AND TENURE

98

J6	Supervisor, Data Processing	11
J7	Section Supervisor	1
J8	EDP Manager	8
J9	Data Processing Manager	2
OJ	Systems Analyst	1
1J	Computer Programming Supervisor	2
2J	Staff Computer Programmer	3
3J	Supervisor, Computing Data Processing Staff	9
4J	Supervisory Accountant	1
5J	Supervisor Data Control	1
6J	Senior Programmer (Task Force Leader)	1
7J	Director, Information Systems	1
8J	Regional Director	3
9J	Senior Analyst	10
K0	Division Manager	2
K1	General Manager - Division	1
K2	Senior Systems Analyst	3
K3	Assistant Data Processing Manager	No answer
K4	Accounting and Data Processing Manager	7
K5	Controller - Treasurer	2
K6	Director of Accounting	2
K7	Computer Programmer	2
K8	Engineer	2
K9	President	6
OK	Vice President	3

RESPONDENTS' POSITION TITLES AND TENURE

99

1K	Computer Analyst	7
2K	Data Processing Manager	5
3K	Instructor, Quantitative Science	3
4K	Section Supervisor	2
5K	Supervisor Operations	3
6K	Educational Director	1
7K	Manager of Operations	3
8K	Consultant - Management Services Department	6
9K	Chairman - Business Administration Division	10
L0	Auditor	15
L1	Partner and Co-owner	2
L2	President	5
L3	Manager, Computer Operations	4
L4	Systems Programmer	2
L5	Assistant Vice President - Data Processing	9
L6	Controller	7
L7	Controller	3
L8	Head, Payroll Accounting	5
L9	Senior Programmer	1
OL	Manager, Clerical and Key punch Department	1
1L	District Sales Manager	4
2L	Head Business Services Department	33
3L	Data Processing Manager	1
4L	Data Processing Manager	5
5L	Supervisor of Programming	1

RESPONDENTS' POSITION TITLES AND TENURE	100
6L Controller	4
7L Data Processing Manager	5
8L Manager, Plans and Programs	1
9L Salesman	2
M0 Assistant Controller for EDP	2
M1 Supervisor, Data Processing Operations	11
M2 Systems Administrator	3
M3 Manager, Commercial Data Processing and Systems	1
M4 Data Processing Department Manager	5
M5 Sales Manager	4
M6 Manager	1
M7 Manager - Data Processing Department	8
M8 Regional Systems Manager	2
M9 Senior Systems Analyst	1

NSA

P0 Executive Secretary	8
P1 Cost Secretary	3
P2 Secretary	20
P3 Executive Secretary	1
P4 Secretary to General Staff Manager	8
P5 Secretary to Division Manager	3
P6 Secretary	14
P7 Assistant Corporate Secretary	8
P8 Secretary	3
P9 Executive Secretary and Assistant Treasurer	4

RESPONDENTS' POSITION TITLES AND TENURE		101
0P	Secretary	9
1P	Advanced Clerk	16
2P	Executive Secretary	25
3P	Secretary	9
4P	Secretary	6
5P	Secretary	1
6P	Executive Secretary	13
7P	Executive Secretary	12
8P	Secretary - Clerk	15
9P	Secretary	10
Q0	Secretary	2
Q1	Secretary to Manager, Costs and Budgets	2
Q2	Executive Secretary	6
Q3	Secretary	1
Q4	Secretary	6
Q5	Assistant to the Purchasing Agent	13
Q6	Secretary III	9
Q7	Steno, C-8	19
Q8	Secretary	2
Q9	Senior Secretary	1
0Q	Secretary to Department Manager	4
1Q	Executive Secretary	8
2Q	Secretary	temporary
3Q	Secretary	5
4Q	Secretary	20

RESPONDENTS' POSITION TITLES AND TENURE		102
5Q	Administrative - Personnel	4
6Q	Secretary	2
7Q	Owner	0
8Q	Secretary and Office Nurse	1
9Q	Supervisor, Stenographic Service, Mail, and Telephone Service	13
R0	Secretary	8
R1	Office Manager - Secretary	1
R2	Secretary - Treasurer	4
R3	Partner	16
R4	Secretary to President	14
R5	Secretary and Administrative Assistant to President	1
R6	Secretary - Bookkeeper	4
R7	Secretary	15
R8	Secretary to Owner	4
R9	Administrative Assistant	15
0R	Secretary	23
1R	Secretary and Underwriter	2
2R	Secretary to Vice President	5
3R	Secretary	10
4R	Secretary	2
5R	Secretary	2
6R	District Secretary	5
7R	Office Manager and Secretary to Vice President	11
8R	Secretary	1

RESPONDENTS' POSITION TITLES AND TENURE 103

9R	Secretary	8
S0	Secretary	9
S1	Secretary to President	17
S2	Secretary	8
S3	Co-Owner	9
S4	Secretary	15
S5	Secretary	8
S6	Executive Secretary	3
S7	Executive Secretary "B"	6
S8	Secretarial Staff Assistant	20
S9	Executive Secretary	7

SPA

Z0	Senior Systems Analyst	3
Z1	Manager - Systems and Services	7
Z2	Controller	2
Z3	Supervisor - Systems Services	3
Z4	Office Manager	8
Z5	Supervisor, Systems and Computer Services	1
Z6	Methods Manager	5
Z7	Manager Systems Analysis	2
Z8	Director	2
Z9	Systems Manager	1
OZ	Assistant to the Director, Systems Analyst	2
1Z	Systems Analyst	1
2Z	Manager Data Processing	4

RESPONDENTS' POSITION TITLES AND TENURE

104

3Z	Systems Analyst	3
4Z	Assistant Supervisor, Systems and Computer Services	2
5Z	Staff Analyst	9
6Z	Systems Project Leader	3
7Z	Systems Analyst and Supervisor Forms Control	2
8Z	Systems Coordinator	5
9Z	Accountant in Charge	2
Y0	Systems Manager	5
Y1	Supervisor, Systems and Procedures	3
Y2	Manager, Systems	1
Y3	Office Manager and Leasing Agent	3
Y4	Manager, Systems Development	8
Y5	Head, Systems and Research	1
Y6	Unit Head - Systems and EDP Programming	8
Y7	Supervisor - Reports and Special Projects	2
Y8	Senior Systems Analyst	7
Y9	Systems Programmer	7
OY	Supervisor, Methods and Procedures	5
1Y	Senior Systems Analyst	5
2Y	Manager, Methods and Procedures Department	2
3Y	Supervisor, Business Systems	4
4Y	Senior Staff Specialist; Manager, Forms Control	7

APPENDIX C

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL

<u>Case</u>	<u>Immediate Supervisor's Title</u>	<u>No. Under Direct Supervision</u>	<u>No. Under Delegated Supervision</u>
	<u>AMS</u>		
A0	Director of Industrial Relations	3	0
A1	Executive Vice President	8	3
A2	Executive Vice President	7	6
A3	Chairman of Board	8	65
A4	Southern Regional Manager	31	0
A5	Supervisor, Office Services	4	40
A6	None	40	1,000
A7	Vice President	25	0
A8	Regional Manager	10	62
A9	Vice President	6	45
0A	Controller	12	7
1A	President	7	3
2A	Vice President	12	20
3A	Manager	5	17
4A	President	2	0
5A	Owner	2	25
6A	Southern Regional Manager	7	52
7A	Manager	6 - 18	3 - 6
8A	General Manager	10	0
9A	Supervisor, Personnel and Office Administration	21	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 107

B0	Chief Accountant	2	2
B1	General Office Manager	27	10
B2	District Controller	18	0
B3	No answer		
B4	President	6	45
B5	Executive Vice President	18	460
B6	Division Accounting Manager	2	2
B7	President	3	15
B8	Senior Vice President	27	0
B9	Executive Director	1	6
OB	Controller	10	0
1B	President	4	176
2B	President	3	60
3B	Vice President and General Manager	8	0
4B	Plant Manager	7	18
5B	Personnel Superintendent	7	7
6B	Public and all my employees	8	24
7B	Office Manager	20	0
8B	General Manager	4	1
9B	Principal	40	0

ARMA

G0	Director of Office Services	8	59
G1	Corporate Secretary	12	83
G2	Building Services Manager	15	0
G3	Office Manager	21	19

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 108

G4	Sales Manager - Owner	1	0
G5	No answer	146	0
G6	Secretary and Treasurer	10	0
G7	Manager, Technical Information	10	0
G8	Systems Coordinator	0	0
G9	Administrative Manager - Production	3	0
OG	Supervisor of Map Records	9	0
1G	Executive Vice President	9	13
2G	Branch Manager	0	0
3G	Supervisor, Office Services	2	0
4G	General Utilities Accounting Supervisor	5	3
5G	Name given	9	0
6G	Assistant Treasurer	11	0
7G	Regional Sales Manager	11	10
8G	Vice President-Treasurer	1	0
9G	None	4	6

DPMA

J0	Manager	7	0
J1	Manager, Programming Systems	15	0
J2	Accounting Supervisor	0	0
J3	Supervisor - Systems Analysis	0	0
J4	District Sales Manager	2	0
J5	General Manager, Data Division	4	0
J6	Supervisor - Systems	18	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 109

J7	Supervisor	20	4
J8	Controller	2	10
J9	Comptroller	4	2
OJ	Systems Supervisor	0	0
1J	Programming Manager	6	0
2J	Manager	4	0
3J	Comptroller	3	21
4J	Department Manager	0	0
5J	Manager, Data Processing	72	0
6J	Supervisor	7	0
7J	Treasurer	5	22
8J	Co-Director	7	102
9J	No answer	0	0
K0	President	2	21
K1	President	4	100
K2	Management Systems Supervisor	1	0
K3	Data Processing Manager	10	0
K4	Secretary - Treasurer	8	4
K5	President	4	0
K6	Executive Vice President	2	4
K7	Assistant Manager of Programming	0	0
K8	Project Engineer	0	0
K9	None	3	30
OK	Chief of Staff	5	4
1K	Office Manager	3	0
2K	Controller	5	9

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 110

3K	Department Chairman	0	0
4K	Data Control Supervisor	10	0
5K	Manager, Data Processing	65	50
6K	Director	10	5
7K	General Manager	4	23
8K	Manager	0	0
9K	Dean	9	2
L0	Executive Vice President	0	0
L1	None	0	0
L2	None	11	9
L3	Assistant Vice President, EDP	5	0
L4	Controller	2	0
L5	Executive Vice President, Administration	6	0
L6	Vice President	5	30
L7	General Manager	12	72
L8	Senior Accounting Supervisor	21	0
L9	Supervisor, Commercial Systems	0	0
0L	Office Manager	20	0
1L	Regional Sales Manager	15	0
2L	Manager	4	21
3L	Controller	35	30
4L	Methods Manager	6	0
5L	Manager of Data Processing	5	0
6L	Owner - President	12	114
7L	Comptroller	7	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 111

8L	Vice President	2	1
9L	President	0	0
M0	Vice President	2	20
M1	Manager, Systems and Data Processing	4	16
M2	Vice President, Administration	4	4
M3	Comptroller	5	5
M4	Office Manager	6	0
M5	Branch Manager	4	0
M6	President	7	6
M7	Controller	2	7
M8	Regional Sales Director	2	0
M9	Head, Business Services	8	4

NSA

P0	Vice President	0	0
P1	Secretary - Treasurer	1	5
P2	Corporate Accounting Coordinator	0	0
P3	Vice President	0	0
P4	General Staff Manager	0	0
P5	Division Manager	0	0
P6	District Plant Superintendent	0	4
P7	Corporate Secretary	1	0
P8	Division Plan Superintendent	1	0
P9	Senior Vice President and Treasurer	0	0
OP	Chief Engineer	0	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 112

1P	Supervisor of Scheduling	2	0
2P	Chairman of the Board	2	0
3P	Market Manager - Foreign	0	0
4P	Regional Manager	0	0
5P	Owner - Operator	0	0
6P	Partner	0	0
7P	President	0	2
8P	District Superintendent - Gulf Coast District	0	0
9P	Plant Manager	0	0
Q0	Secretary-Treasurer-Controller	0	0
Q1	Manager - Cost and Budgets	0	0
Q2	President	1	0
Q3	Executive Secretary	0	0
Q4	Partner	1	0
Q5	Purchasing Agent	1	0
Q6	District Designing Engineer	1	0
Q7	Works Engineer	0	0
Q8	Manager	0	0
Q9	Manager of Department	0	0
0Q	Manager, Public Relations	0	0
1Q	Councilman at Large, City of Houston	0	0
2Q	Office Manager	0	0
3Q	Branch Chief and Technical Assistant to Division Chief	0	0
4Q	One of the Senior Partners	0	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 113

5Q	Manager	0	0
6Q	Chairman, Chemical Engineering	1	0
7Q	None	0	0
8Q	Surgeon	0	0
9Q	Business Manager	6	0
R0	President	6	0
R1	Sales Manager - Owner	1	0
R2	President	1	0
R3	Senior Partner	2	7
R4	President	1	0
R5	President	3	0
R6	President	0	0
R7	Assistant Vice President	0	0
R8	Owner	0	0
R9	Vice President	2	0
OR	Senior Vice President and Secretary to Six Life Companies	0	0
1R	Owner	1	0
2R	Vice President, Secretary - Treasurer	0	0
3R	Plant Manager	0	1
4R	Assistant Comptroller	0	0
5R	Division Accountant	0	0
6R	District Manager	1	0
7R	Vice President, Southwest Region	6	0
8R	Plant Manager	0	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 114

9R	Manager of Business Planning	0	0
S0	Counsel	0	0
S1	President	3	0
S2	Vice President and Treasurer	0	0
S3	None	4	0
S4	President and General Manager	0	0
S5	District Sales Manager	0	1
S6	Vice President - Petrochemicals and Research and Development	0	0
S7	Director	0	0
S8	Works Manager	0	0
S9	Vice President	0	0

SPA

Z0	Regional Systems Supervisor	2	0
Z1	Vice President	6	9
Z2	President	5	139
Z3	Works Accountant	12	25
Z4	Treasurer	8	0
Z5	Manager, Accounting Services	21	0
Z6	Controller	3	5
Z7	Manager, Systems and Programming	2	0
Z8	Mayor	5	97
Z9	Vice President, Finance	2	0
OZ	Director of Libraries	0	0
1Z	Manager, Systems and Data Process- ing	9	0

RESPONDENTS' IMMEDIATE SUPERVISOR AND SPAN OF CONTROL 115

2Z	Executive Vice President	10	12
3Z	Manager	3	0
4Z	Supervisor	0	21
5Z	Systems Manager	0	0
6Z	Systems Manager	3	8
7Z	Manager, Information Systems	3	0
8Z	Manager, Data Processing	10	0
9Z	Vice President	7	0
Y0	Director of Systems	8	9
Y1	Manager, Financial Analysis and Procedures	3	0
Y2	Vice President and Controller	7	22
Y3	President	5	2
Y4	Manager, Administrative Services	1	0
Y5	Vice Chairman of the Board of Directors	5	0
Y6	Section Head	5	0
Y7	Manager, Financial Controls	0	0
Y8	Division, Systems Supervisor	1	0
Y9	Systems Manager	0	0
OY	Supervisor, Computer and Data Processing Staff	6	0
1Y	Assistant Vice President, EDP	11	0
2Y	Vice President	3	0
3Y	Manager, Business Systems	7	22
4Y	Service Administrator of Printing	4	0

APPENDIX D

TYPICAL DECISIONS AND PROBLEMS

TYPICAL DECISIONS AND PROBLEMS

AMS

<u>Case</u>	<u>Response</u>
A0	Interpretation of personnel policies; actuarial decisions regarding retirement funds and trusts, etc.
A1	Anything regarding procedures and methods in an office - particularly in accounting phase.
A2	We have three jobs which call for rush conditions: which people to use on each job; which job has the most pressing need; if it is necessary to make some wait, who will it be.
A3	The fiscal policies, key men supervision, clientele contracts, complaints of service quality, expansion programs, direction of department heads or supervisors.
A4	No answer.
A5	Problems are seeing a smooth operation of services throughout the company. Most decisions are concerning employee performance. Coordinate actions.
A6	You name it; I do it.
A7	Financial management of company; all accounting problems.
A8	Personnel: A to Z! Attendance, performance, employment, etc. Work flow - items going to file before accounting - errors. Individual performance - training. Is work current? What action should be taken - why necessary.
A9	No answer.
OA	All of accounting and premium finance department's problems.
1A	Accounting procedures, forms control. Budgets, forecasting, purchasing office equipment, printing, stationery, etc. Cash flow and control.

- 2A Work flow - personnel shift to meet peak loads; personnel records; telephone placement and changes.
- 3A Accounting procedural problems to be resolved; evaluation of types and quantity of office furniture and equipment required; create and update new accounting and cost control methods as required; prepare and/or approve financial reports to senior management in home office.
- 4A All administrative problems related to industrial sales, such as internal administration, sales follow-ups, quoting, expediting, and over-all management.
- 5A Tax actuarial; set schedule of performance of service for clientele; maintain schedule.
- 6A Local marketing plans including personnel, territories, quotas. Oversee hiring and training of salesman by sales manager. Coordinate sales activities of four product divisions, relating some to total branch objectives. Supervise clerical personnel, oversee supervisor of services department.
- 7A Formalizing audit programs; auditing and accounting problems and decisions; systems and procedures of clients.
- 8A All relating to selection, training, and motivation of a sales force.
- 9A Air conditioning - too hot or cold - have temperature check - if equipment is not functioning properly analyze - fix - or issue authority for repair.
- B0 General accounting problems arising from day to day with regard mainly to the printing industry.
- B1 Hiring and firing of personnel; testing new personnel and present personnel before promotion. Disputes in office and interpreting systems and company policy.
- B2 Distribution of work during peak load; annual usage of supplies for purpose of ordering on an annual basis for 28 branch offices located in 8 states.
- B3 No answer.

- B4 Final responsibility for policy and administration regarding employee relations, purchasing, systems, and services.
- B5 Establish budget and operating goals; approve all major expenditures; select all department heads (key personnel); assign primary work assignment; establish personal problems with subordinates...let them talk it out...and help them arrive at their own solution; represent firm on social level; inspect physical plant often to maintain quality of maintenance.
- B6 Interpretations of instructions; allocation of hours to projects; supervisor or management qualifications; schedules.
- B7 Financing; unusual accounting problems; systems and procedures pertaining to finance and accounting; general insurance.
- B8 All problems related to personnel work such as employment, employee relations, etc.
- B9 Purchasing and maintenance are total responsibilities.
- OB Price problems, customer requests and complaints, systems and procedures, personnel within own department.
- 1B Overall decisions relative to administering the office services function for the parent company and its subsidiaries.
- 2B Purchasing of resale items - equipment; raises; form changes; borrowing money; personnel problems; hiring and firing.
- 3B Accounting problems (billing, payables, receivables, cost distribution, etc.); purchasing supplies, equipment, etc.; personnel; all general office-type decisions.
- 4B Material procurement; job costing; credit procedures; accounting.
- 5B Communications system; priority of reproduction; floor space allocation; mail delivery routes; priority of assigning vehicles for use; purchase furniture and equipment; repair and sell vehicles.

- 6B All financial problems; most hiring and dismissal; policy regarding advertising and promotion; collections; buying; leasing of space; etc.
- 7B System operation in office; new accounting systems and procedures.
- 8B Responsible for financial matters; organization and operation of the general office; the problems are many and varied. All of those which are associated with the operation of a business.
- 9B What business firms to seek out for employment of the students in cooperative part-time programs; what curriculum to offer students in the program; in new program how to establish good rapport between student employee and employer, between program and other business teachers, and school administrators; establish good public relations in the community.

ARMA

- G0 Select furniture for new office areas, plan moves, design space for new offices, designate types of file equipment, work with building personnel in problem areas of heating and cooling, assist in selection of office accessories.
- G1 Various administrative decisions involving employees, office furniture and equipment, departmental procedures, space allotments, construction, maintenance of records, warehousing, shipping and receiving, parking, food service, and reproduction.
- G2 Personnel - job assignments - hiring, firing, promotions, time off, etc. Records control, retention, destruction, location assignments, and types of installation.
- G3 Personnel selection, training, evaluation, discipline, job assignments; selection and approval of all file equipment and supplies. Floor planning and location of all material in department. Scheduling and transfer of records, microfilming, warehouse storage, and destruction of records.
- G4 This is a small and new company. I was hired to set up sales and invoicing procedures, cost summaries, office procedures, and in short everything that needs to be

done in a new organization to get the records started since they anticipate rapid growth and wanted to start with a good set up.

- G5 Responsible for the operations of the recording section of the County Clerks office, clerk of the Probate Courts, County Civil Courts at Law, ex-officio clerk of the Commissioner's Court.
- G6 Decisions pertaining to records management for the entire organization. Decisions regarding mail and receptionist service and any contact with Humble Oil as to general services.
- G7 What is the best system for accomplishing a task: fewer steps, less expense, quicker completion, fill requests for material in least possible time, refile it in least possible time with as little amount of handling as possible to have it retrievable.
- G8 Records administration activity involving systems relating to records creation, maintenance retention, and disposition.
- G9 Supervise file room with 160,000 folders on all matters pertaining to production operations. Supervise preparation of departmental payrolls, invoice processing forms design, and stocking.
- OG Reorganize about 60 years of drawings and paperwork into a workable system. This Central Records is only a year old and we are still in the reorganization period. I determine microfilm procedures, how paperwork should be set up, etc.
- 1G Hiring - wage determinations, employee benefits, keeping records.
- 2G Problems of filing and retrieval of records of companies engaged in all phases of business.
- 3G Records retention and control; destruction of records.
- 4G Supervise central record section (includes mail and teletype service). Responsible for classification, maintenance, storing (active and inactive), retention, destruction of all plant files. Requisition file supplies, recommend file equipment. Execute vital records program.

- 5G Hiring sales, service, and administrative personnel.
Training salesman. Assisting on systems applications.
- 6G Streamlining records; handling (retrieval, storage, security, disposal, etc.), mail systems, and switch-board operation. We continually place each function "on the line" for high efficiency and cost reduction ...although we do not mind paying for reliability.
- 7G Equipment, promotion, and selling; customer satisfaction; systems applications.
- 8G Filing system for whole company; record storage and retention. All records programs.
- 9G Solving filing and space problems for industry and business.

DPMA

- J0 Systems and programming design.
- J1 Maintenance of computers' systems for Shell Oil plus regular personnel problems.
- J2 Introduction of new or revised company mechanized procedures in four division offices in area (Houston, Gulf, Austin, San Antonio). Assist in or develop local modifications and/or procedures as necessary.
- J3 Large scale computer operations consultant - operations procedures, writing operations manuals; evaluation and recommendations to DP manager concerning new products in peripheral equipment area. Analysis of optional scanning. Physical installation plans.
- J4 Communications requirements for customers, mainly working with systems people to give them the best suited communications for their information systems.
- J5 Responsible for getting out work.
- J6 Rendering gas bills to customers; payrolls; inventory; gas system analysis.
- J7 Personnel decisions and problems pertaining to my group. Office space requirements. Coordinate delivery schedules. Responsible for getting work into and out

of the data center and computer operations.

- J8 Responsible for operating the EDP section for our company.
- J9 The automation of all phases of accounting. Production scheduling for shop and training of personnel in the general functions and operations of the data processing department.
- OJ No answer.
- 1J Supervisor of programming commercial type computer applications.
- 2J Technical computer programming is done by my section. Decisions concerning methods to be used, languages to be used, personnel requirements, training and coordination are typical problems.
- 3J Management of computer operations, commercial programming and technical programming. Staff selection, training of personnel with salary administration, scheduling of equipment, selection of supply vendors, etc.
- 4J Any and all kinds of special problems that have to do with office systems.
- 5J Rotation of personnel, priority of jobs, salary administration, hiring and firing, scheduling.
- 6J Have full responsibility for development and implementation of complete financial systems for two separate subsidiary companies.
- 7J Data processing problems as related to company need and requirements in all areas of company operations. Organization and operation of complete facilities in data processing function.
- 8J No answer.
- 9J Design EDP systems for chemical company. Write, coordinate, and maintain programs. Indirect supervision and training people who use this system including EDP operators.
- KO Making a profit.

- K1 Profits: enter major marketing areas.
- K2 Time budgeting; specific procedures, forms to be implemented on a new or modified system; program flow; controls to be established; back up required.
- K3 Programming, systems, scheduling and operations decisions and related problems.
- K4 New accounting and data processing procedures. All internal control problems.
- K5 Accounting; financial.
- K6 All accounting, data processing, tax, and feasibility studies.
- K7 For complete analysis, programming, debugging, and operation procedures of commercial problems.
- K8 Determine type of updates to be uplinked to each vehicle. Determine quantities to be uplinked for each update. Determine coordinate system (if any), units, sole factors, etc., to be used in computing each quantity. Determine source of quantity. Establish format in which each update is to be generated. Show how each update is to be displayed by DITU.
- K9 Running an organization engaged in design, installation, research and development of record storage systems and equipment - 12 hours/day; meeting a payroll and making a profit is the overall problem.
- OK No answer.
- 1K Responsible for implementing, designing computer applications.
- 2K Procedures, scheduling, systems design, personnel.
- 3K Course content; recommendations for curriculum changes.
- 4K Scheduling keypunch and computer jobs. Checking to see why jobs did not run.
- 5K Scheduling and operation of six large computers, small computers, data transmission equipment, data plotting equipment, and two remote installations with small computers and EAM equipment.

- 6K Personnel and student counseling; administrative policy on local level; responsible for all scholastic administrative information.
- 7K Equipment - evaluation, ordering, service, utilization, installation; supplies - evaluating, monitoring, purchasing; administrative - approving bills, reporting activities, correspondence (other daily requirements); personnel - hiring, evaluating, recommending advancements.
- 8K Decisions concerning acquisition and use of data processing equipment or concerning applications of such equipment in relation to the clients accounting system and information requirements.
- 9K Make recommendations for budgets, courses, number in class, scheduling, course content, equipment, help plan and plan layouts for new setups for DP and BA departments (including rooms, electrical requirements, air conditioning, furnishings, equipment, personnel, etc.)
- L0 All general accounting and taxation.
- L1 Customers' problems associated with computer applications, systems, programming.
- L2 Direction of service; range of service.
- L3 Which of several jobs have priority for scheduling computer time. Determine best way to solve problems growing out of errors - bad input, program bugs, machine malfunctions.
- L4 Systems and procedures information; program maintenance.
- L5 All systems designed and programming.
- L6 Planning and implementing computer oriented management information system.
- L7 Accounting, data processing, financial, all fiscal reports, and all problems related in any manner to office operation or functions.
- L8 Any problems arising when paying 19,000 employees in 47 states.

- L9 Responsible for the development and maintenance of commercial programs and systems assigned to my group, and the direction of those programmers working in my group.
- OL If report of production turned in to state is correct or not and what to do with questionable reports; what people to change to get a job out on time.
- 1L Recruiting, selection, motivation of salesman. Administrative duties in office.
- 2L Formulate and execute policies involving data processing, order servicing, shipping, warehouse control, stock control, mail, reproduction, files, building management.
- 3L Go or no go on newly proposed EDP projects; personnel decisions on persons within the department; analysis of current trends in DP and their effect upon the operations of our company.
- 4L Developing systems and procedures for implementation on our computer. Supervising operation of computer. Administering payroll function.
- 5L Data processing systems, operation, programming, and personnel.
- 6L All general accounting problems; form format; system design.
- 7L Which job goes first; accounts payable; payroll; merchandise reports, sales audit, refunds.
- 8L Who is likely sales prospect? Qualify a "suspect" as a "prospect." Bid, no-bid decisions; i.e., expend resources required to prepare proposals, presentations, etc. Is applicant for employment qualified and/or desirable as an employee?
- 9L Often times the scheduling of projects to be run on our data processing machines.
- MO Future growth. Areas to be considered for EDP application. Upgrading of systems, equipment and personnel.
- M1 Reconcile accounting priorities; assure critical report

schedules; adequate department staffing; plan equipment and supplies for growth needs.

- M2 Data processing, office flow, schedules, systems and forms design.
- M3 Data processing problems, personnel, developing new systems and maintaining present ones.
- M4 Layout of all jobs requested by management; instructions for operations of all available equipment; schedule and develop all jobs; stay abreast of new types of equipment and software.
- M5 Proper equipment application to problems of accounting.
- M6 Sales; equipment operation and procedures; training.
- M7 Implementation of new systems, systems design and analysis; scheduling and programming.
- M8 Advise sales force as to best technical considerations involved in attempting to sell computers. This involves all aspects of computing technology (hardware, software, competition, and futures).
- M9 Design and implementation of all data processing reporting systems. Office methods and procedures, central files maintenance, mail service and reproduction equipment rental and/or purchase.

NSA

- P0 Any problems regarding administration which my executive must solve or which requires his decision is my responsibility, too, in that I must be prepared to intelligently assemble material and information for him and evaluate salient facts for him.
- P1 Complete responsibility of cost system - accounts payable, and responsibility related to secretarial duties in this particular field.
- P2 No answer.
- P3 No answer.

- P4 Maintain biographies and voting records of legislators as they relate to operations of our company. Coordinate with Department of Defense on company's industrial security activities.
- P5 Decisions concerning payroll procedures and payroll problems. Decide types of office machines such as typewriters, adding machines, and reproduction machines to be used in office.
- P6 Coordinating all office functions.
- P7 As employer is in charge of Company Aviation Department, and I am in charge of scheduling all company aircraft (have five), must decide who has priority for a plane when all planes are scheduled. Priority of work in office.
- P8 Keeping harmony among clerical employees.
- P9 No answer.
- OP No answer.
- 1P In case of overload in one day, decide what must go out and what to hold over.
- 2P No answer. (confidential)
- 3P No answer.
- 4P Typical one girl office; you have responsibility but no real authority.
- 5P All decisions having to do with general management of office and carrying out of all detail work not specifically involving the field work.
- 6P Screening telephone calls and visitors.
- 7P Research files for background legal and land information. Compose and write replies; much correspondence. Purchase office supplies and some equipment. Handle flow and volume of work, including employment of temporary help for overload. Maintenance of confidential files. Maintain investment records. Keep corporate minutes.
- 8P Minor decisions that are left to my discretion - office

procedures simplified, routine collection of production data, contact of personnel, pipe lines, etc. in order to activate compilation of needed information.

- 9P Route visitors and telephone calls to proper people; furnish appropriate company information to telephone callers. I edit plant newspaper, which is approved by Industrial Relations and the Plant Manager, but I pretty well screen its contents.
- Q0 No answer.
- Q1 No answer.
- Q2 Any dealing with operation of the office - when, how, paying bills, etc.
- Q3 No answer.
- Q4 Paying bills, call repairmen, make bank deposits and perform all duties of one office person.
- Q5 Analyzing sale and manufacturing usage of products for buying and purchase of sheet steel products. Make decisions as to time quantities, suppliers, followup claims, and all matters pertaining to purchasing.
- Q6 Hiring of personnel in our department; supervise personnel under me.
- Q7 Code invoices for payment, keep time record on contract personnel and check against invoice for payment.
- Q8 Whatever the boss doesn't want to do and all students should be made aware of this as it applies in every case I know of.
- Q9 Distribution of mail, directing telephone calls.
- 0Q Screen calls; answer routine correspondence; dispense certain giveaway items, etc.
- 1Q Handle complaints, inquiries, anything coming into the office by telephone or mail refer to proper departments - by phone if emergencies. (Councilmen are part-time and in office Tuesday afternoon and all day Wednesdays when Council meetings are in session.)

- 2Q Take instructions and relay them to others on certain projects, thereby organizing work and preventing unnecessary interruptions of executive with questions and facilitating completion of work. File marking. Correct English, grammar, and usage. "Call-Director."
- 3Q Schedule all overtime, arrange for conference rooms, make travel arrangements, control data processing documents, design forms for office use, sometimes Division use; determine formats for technical reports, determine who handles specific problems when boss is on travel or if he should be contacted.
- 4Q Nothing outstanding. I open mail and answer all correspondence I am capable of answering.
- 5Q Hiring of personnel.
- 6Q Responsible for smooth flow through of administrative work in connection with highly technical graduate research program.
- 7Q No answer.
- 8Q Collection of accounts - insurance followups - medical emergencies in M.D.'s absence.
- 9Q Ability to apply knowledge of departmental rules, regulations, procedures, functions, management and supervision to work problems, work independently on difficult or complex clerical tasks, prepare accurate reports, compose effective correspondence, deal with routine supervisory matters, orient and train clerical employees, deal with public in effective manner, maintain good working relationship.
- RO Personnel problems (for those under my supervision); complaints (from major depositors); review of pending legislation concerning banks, promissory notes, etc. (to determine proper action and either handle personally or refer to employer for handling.)
- R1 This is a small and new company. I was hired to set up sales and invoicing procedures, cost summaries, office procedures, and, in short, everything that needs to be done in a new organization to get the records started since they anticipate rapid growth and wanted to start with a good set up.

- R2 Pricing of orchestras and acts, setting up suitable programs of music and entertainment to solve entertainment problems of conventions, private clubs and company sponsored functions. Writing submission letters, keeping accurate records--both financial and booking schedules.
- R3 All decisions having to do with my department. If I feel they are outside the scope of my authority I consult with other partners of the firm. I interview, hire, and fire people in my department; recommend salary increases, etc. Authorize purchases of special supplies or equipment. I am responsible for all financial matters, billings, collections, borrowing, meeting payrolls and other expenses, with the very able assistance of a CPA on our staff.
- R4 General executive secretarial problems; appointments; telephone; meetings; travel arrangements; accounting problems with employers personal and ranch records and tax returns; selections for company library.
- R5 Office procedure; screening secretarial applicants; purchase office equipment; delegate work to other typists; authorize overtime, temporary employees; how much secretarial work contracted outside of office.
- R6 Make suggestions to co-workers regarding accounts payable and receivable. Responsible for keeping accounts current and making collections when necessary. Buy office supplies and keep files.
- R7 A certain amount of work assigned to my immediate employer is handed to me, and this I am responsible for, without any supervision.
- R8 Scheduling travel arrangements, appointments, how to take care of unscheduled callers.
- R9 Types of letters (form and original) to customers about various problems in connection with insurance; customer relations enter the picture to a great extent. Format of letter, the distribution of copies, and the type of letterhead also involved.
- OR Creating proper corporate records, resolutions, etc., based upon need and authority. Establishing and maintaining liaison among companies in group.

- 1R Personal, customer, company.
- 2R Schedule my work activities to fit in with those of my employer. Decisions are made at such times as they might become necessary, and I am unable to cite "typical" cases.
- 3R No answer.
- 4R No answer.
- 5R No answer.
- 6R Routing of correspondence; records retention.
- 7R Decisions as to the hiring of stenographic and clerical employees. One of my chief problems concerns maintaining a work load balance in our stenographic area. This is constantly changing. The purchasing and maintenance of equipment are among my foremost duties. Supervision of female employees (in every aspect) presents problems sometimes but provides variety and interest also, (if you like people, and I do).
- 8R Screen telephone calls.
- 9R Purchase office supplies; answer routine correspondence; compile special cost analyses; screen all calls and visitors, handling many problems myself; handle inter-departmental relations; act as sounding board for my boss.
- S0 I scan my employer's incoming mail and decide which matters I can handle to lighten my employer's work load and which must have his personal attention.
- S1 Letter construction (occasionally). Mailing deadlines. New personnel employment. Making all hotel and airline reservations.
- S2 No answer.
- S3 General management problems.
- S4 Screen personal and telephone calls, open and divert mail addressed to executive (not strictly necessary for him to take time to read).
- S5 Travel time on tankcars or tanktrucks; allocation of materials; scheduling of work.

- S6 Screening of phone calls and visitors and referring to others when deemed advisable. Determination of an adequate system of files for employer. Interpreting company policy and procedures as they relate to other departmental employees. Determining order of priority of work load assignments. Assisting in coordination inter-departmental functions within the department and with all of the other departments of the company.
- S7 Problems of travel arrangements; some meeting plans. Distributing routine mail to functional department for handling.
- S8 My work is not of a routine nature. My employer is out of the city at least a fourth of the time; he has no one in the office to take over in his absence--I do what I can and refer to others the matters lying within their realm.
- S9 No answer.

SPA

- Z0 Determine the necessity, frequency and sources(s) of present or proposed reports. Develop alternative approaches through problem analysis and recommend or decide on the procedural approach to be utilized.
- Z1 Commit company to new systems and new equipment - major and minor.
- Z2 Personnel; accounting; data processing; budgets; forecasts; cash flow; credit and collection; banking.
- Z3 Determine priority or value of data processing applications and assign personnel to projects. Determine need for furniture, equipment, communications, office facilities, and mail distribution points. Hire and evaluate personnel for technical and personal abilities to perform their various responsibilities and initiate action in compensating them for their performance. Direct the work of seven systems analysts, programmers, supervisors of data processing, printing, communications, and mail distribution.
- Z4 Office management problems, data processing and computer problems, and systems and procedures.

- Z5 Technical decisions on utilization of computers; feasibility of systems implementation assignments of department personnel.
- Z6 Standard practice procedures; profit opportunities; office equipment installation; operations studies (production); new installations, i.e. storage, services.
- Z7 Responsible for all systems for data processing department.
- Z8 Which computers and associated hardware to buy; what problems are to be solved using these computers and how to solve the problem.
- Z9 Acquisition of business machines, identifying sources of information, analyzing data and compiling facts for decision making, satisfying routing report requirements, establishing an efficient network to do this.
- OZ Coordinate automation activities within the university libraries and studying ways for more efficient operations. Problems center around choosing alternative systems and which would be economical and practical for our operations.
- 1Z Computer hardware selection; office equipment selection; information systems design and analysis; reports and forms design and control; cost reduction measures.
- 2Z What system study to undertake; how many people to put on the study and for how long; salary increases for people under me; how much computer time to rent outside the company.
- 3Z Definition of systems requirements; determination of input and output data; layouts and processing efficiency and objective decisions; and evaluation of results.
- 4Z Decisions to be made or problems to be solved related to the implementations of systems designs and computer programs; the development of standard corporate procedures and company-wide forms control.

- 5Z All types of business systems problems.
- 6Z Changes to existing systems; schedule new systems applications; review operations research for feasibility.
- 7Z Forms design, use; inventory control; design of accounting computer systems: AP, AR, and purchasing.
- 8Z Systems coordination; data transmission; computer equipment configuration; personnel assignment.
- 9Z Purchase approvals; ad valorem tax renditions for some 435 Texas jurisdictions; equipment purchases (office); department budgets; retention and destruction of records in a general file.
- Y0 Salary administration; planning computer projects; training.
- Y1 Determining better methods; improving commercial systems within company; primarily in financial, banking, and purchasing; handling of problems which arise - control and supply of forms; writing of policies and procedures.
- Y2 Computer evaluations and selection; coordination of multi-company information requirements; use of manual or machine methods.
- Y3 Purchasing plantings; maintenance and planting of outside areas; public relations; liaison between tenant and management and office employee duties and coordination.
- Y4 Study, evaluate, design manual mechanized systems and procedures; includes decisions on equipment best suited to accomplish tasks, etc.; deals with administrative application only.
- Y5 Defining areas for systems work.
- Y6 Accounting; operational; forms control; policy and procedures. Any problems within the scope of the company's operations. The development decisions are made by me; final decisions are vested in higher management; we are a staff unit.
- Y7 Problems related to accounting or statistical reporting of corporate activities; decisions on format; what to include or exclude, etc.; also budget preparation responsibility and comparison of actual with

budgeted results. Major portion of activities is compiling reports to be filed with various governmental agencies.

- Y8 Make complete analytical studies and recommendations: prepare reports; write and edit instructions; policy.
- Y9 Design and program systems to include implementation of same; forms control; records management; site and manufacturers selection for various types of EDP equipment.
- OY Mechanization of all accounting and related records; keeping this type of programming updated and operational.
- 1Y I make any decisions necessary to complete a job with the exception of company policy decisions.
- 2Y Direct control over all phases of company's "work measurement" program; systems decisions or problems as they occur in both clerical and data processing areas.
- 3Y Salary recommendations; transfer of employees; performance appraisals; various questions related to systems design when subordinates are not in agreement or is otherwise referred to me by subordinates.
- 4Y Forms design and control; flat sheets, continuous forms, snap-outs and advertising items; actual lay-out of form desired, establish specifications low stock point for re-printing retention schedule; writing corresponding procedure or procedures to cover the use of the form.

APPENDIX E

CREATIVE ASPECT

CREATIVE ASPECT

<u>Case</u>	<u>Response</u>
	<u>AMS</u>
A0	Yes, salary surveys; statistics; improvements to group and pension plans, etc.
A1	Plan and institute new procedures such as all procedures in connection with installation of small computer. Create new forms, update existing forms, etc.
A2	What new piece of equipment will speed up or make more correct a system we have now. Can a new form design or routine change reduce or eliminate delay or errors.
A3	Yes. Such as a new service for our clients. I then will employ the proper person to implement the new service and department.
A4	Mainly sales ideas.
A5	Yes. I am constantly trying to improve the service. I try to find better ways of performing these services.
A6	Advertising; layouts; sales programs and approaches - methods and procedures.
A7	Design and installation of new office systems.
A8	Yes, how can work be accomplished better. How can a given procedure be implemented.
A9	Any new form or idea that improves work, conditions, or services.
0A	Delegated to others.
1A	Accounting procedures; forms management.
2A	No.
3A	Create and update new accounting and cost control methods as required.
4A	Only with respect to keeping systems and procedures up to date with the latest techniques.

- 5A Design service based on factors pertaining to client.
- 6A Yes, territorial analyses and evaluation; personnel evaluation interview; long-range marketing plans with regard to sales presentation for new products, sales forecasting.
- 7A No answer.
- 8A Those relating to sales - design special styles of envelopes.
- 9A Analyze office space; layout additions; oversee construction; obtaining all vendors, etc.
- B0 By both.
- B1 Usually follow company procedures; at times have to deviate and create own systems and policy.
- B2 Yes. Revision of accounting forms, reports, etc. for purpose of simplification.
- B3 No answer.
- B4 Yes.
- B5 Establish in conjunction with each individual department head the operating policies of that department. Continuously try to come up with money-saving ideas and then implement same. Strive to maintain esprit de corps throughout organization.
- B6 No.
- B7 Occasionally.
- B8 Yes. New programs in training, benefits, coding systems, etc.
- B9 Creation of certain systems forms.
- OB Occasional changes in forms, procedures, or routing.
- 1B Not in line with projects that would be assigned to an R.&D. group, but we determine methods and ways of implementing the office services function which saves the company money - yet maintains a required standard.

- 2B Yes.
- 3B New methods printing logs, availabilities, equipment, method, form, etc. Procedures for filing, accounting system for sub-operation which operates independently.
- 4B Yes.
- 5B Design and lay out of office space. Revise telephone system and other such related items.
- 6B I do not consider myself particularly creative. Most of my ideas come from others. Believe I am a good organizer and motivator.
- 7B No.
- 8B Always devising methods of doing operations better or more efficiently. Looking for ways to increase revenue and reduce cost.
- 9B Almost all creative - develop job opportunities for students; develop curriculum program to fit each student and job; create appropriate club activities for student club.

ARMA

- G0 Design and layout of office space, storage areas, color coordination, selection of accessories. We do plan space changes which others agree to as well as plan those which others originate. We initiate some file reorganization although most is done by request from others.
- G1 No answer.
- G2 Organization of records; develop and put into action various file systems; preparation of work manuals.
- G3 Study of retention, vital records program time studies; updating procedures; handling acquisition of records.
- G4 The only real project was an over-all coverage of all office procedures - and to check back over the previous year to see what had been neglected and needed correction and to instigate a new program.

- G5 Yes.
- G6 Create methods and systems in records work. This is somewhat of a new field.
- G7 Finding more efficient ways of accomplishing any tasks with the personnel available.
- G8 Again - systems improvement.
- G9 Standard file guide, retention schedule for forms and records; certain types of instruction manuals.
- OG As mentioned above, most of this reorganization is creative since there has been no records program in the past. Yes, my procedures are carried out by all of the ten people in central records.
- 1G Numerous projects concerning our personnel.
- 2G Study problems encountered in record keeping by companies whether it be system of filing types of records or equipment used. Then recommend solutions.
- 3G No answer.
- 4G Not in particular.
- 5G Yes. Designing systems for equipment application.
- 6G PBX WATS line study, mail study, copying study, etc.; forms control, etc.
- 7G Systems applications; office planning; sales promotion with special sales projects.
- 8G Originates all records programs.
- 9G Yes, I create an idea with a company and many times they carry it out.

DPMA

- JO Designing systems to be implemented by production.
- J1 Choice of computers - both hardware and software - installation, implementation and maintenance of the software.

- J2 Solve problems. Determine better methods* and how best to introduce them. Then follow through. *Mechanized with (rare) manual methods.
- J3 Decide how operations should be performed most effectively, write procedure and install it with cooperation of supervisor of computer operations.
- J4 Making an analysis of customers communication requirements and preparing recommendations to present to them.
- J5 Suggestions to programming or systems department for thought.
- J6 None.
- J7 Only those projects relating to this group.
- J8 Manual or unit records jobs studied and a computer system designed where practical.
- J9 The design of all new systems is my direct responsibility, from finding the need to automate to completed system.
- OJ Do basic systems analysis within functions assigned. Design new systems. Program and implement.
- 1J None.
- 2J Planning a systems procedure and implementing the procedures with computer programs is the creative aspect. In one sense, I am a designer. I do originate many programs.
- 3J Yes, EDP systems and technical computing systems for company-wide application.
- 4J Given base problems and develop solutions; originate project also.
- 5J Origination of any means to better facilitate the handling of work.
- 6J Have full responsibility for development and implementation of complete financial systems for two separate subsidiary companies.
- 7J Basically management and development of integrated data processing.

- 8J No answer.
- 9J Projects are originated by either the analyst or the client group. Approval by head of client and analyst necessary, otherwise decision made by higher authority.
- K0 Yes.
- K1 New product planning - carried out by others.
- K2 Middle or low-level systems design. Basic problem and approach are established prior to assignment to me. Some discretion allowed me as to specific procedures, forms design, flow, etc.
- K3 Design of computer systems.
- K4 Planning of new systems in accounting and data processing.
- K5 No.
- K6 Yes, mostly related to system design.
- K7 No answer.
- K8 Organization of requirements documents. Establish testing criteria for program checkouts.
- K9 Yes. Design, construction, manufacture of retrieval equipment. Applied for patents. Glorious lost weekends trying to make things work.
- OK Complete system and procedures workup for both companies. All work originated by me are carried out by both companies.
- 1K Responsible for implementing, designing computer applications.
- 2K Yes, working with departments to carry out systems design.
- 3K Design of data processing problems and applications.
- 4K Set up good writeups and check points so that jobs will be run with a minimum of errors.
- 5K Plan for replacement computers; evaluate new computers and equipment; training of personnel.

- 6K Whenever possible, this is based on mostly operational needs at the time.
- 7K Office; operating; programming and system procedures; coordination between groups; determine controls and checks for normal business.
- 8K Originate recommendations carried out by client.
- 9K Various computer programs, teaching methods, planning rooms equipment, supplies, programs, etc. for data processing and business administration departments of the college.
- L0 Forecasting.
- L1 Yes. Develop and implement problem oriented computer programs and systems for commercial applications.
- L2 Recognize client needs; request program for solution.
- L3 Yes, offer advice on various projects under development for the computer. In some cases, take the lead in organizing, studying, planning, writing specifications, etc. on new projects.
- L4 Originate all system and procedures changes and additions.
- L5 All projects are carried out by others. My duties are to define the project and assign it to an employee, who then develops.
- L6 We create many new concepts in our accounting and administration systems which can be adapted to the management information operations. I create and implement as well as direct others, IDP is a heady goal.
- L7 Yes. Data processing system; unit record was installed and is being operated and upgraded to System 360 as rapidly as fiscally feasible. Entire internal control procedures has been reestablished in last two years and process is continuing one.
- L8 Helped design an integrated payroll and employee record-keeping system.
- L9 Problems or situations are presented to our group to be solved. The method of solution is largely

dependent on the individual's or the group's approach to the problem thereby achieving a degree of creativity.

- 0L Work with other people in office on setting up and seeing that special jobs are completed.
- 1L Yes.
- 2L Yes. Formulate and execute policies involving data processing, order servicing, shipping, warehouse control, stock control, mail, reproduction, files, building management.
- 3L Systems analysis and the formulation of new or more far reaching and informative computer systems. Motivation of personnel under my supervision to develop a finely tuned organization to supply meaningful information.
- 4L Developing systems; programming; coordinating systems and programming work of others; performing feasibility studies for new DP equipment.
- 5L Yes, I originate and delegate many projects, and data processing systems.
- 6L At the present, I am involved in establishing a new system for the 9300 UNIVAC.
- 7L Work until the job is done.
- 8L Plan marketing and recruiting programs and implement same. Make proposals to clients regarding services to be provided and monitor successful projects awarded to company.
- 9L Project planning for computer applications for some customers data processing jobs.
- MO The exploratory phase of systems design to determine feasibility of a project which if accepted is then given to the systems group.
- M1 Processing method development; analysis of operating utility and costs; preparation of functional operating methods.
- M2 Implementation of management directives.

- M3 Yes. Development of new systems and procedures.
- M4 Accounts receivable procedure was a development of mine before coming to Peden. I was a consultant in establishing data processing departments; before taking this job.
- M5 No answer.
- M6 No answer.
- M7 Design of forms, methods and procedure creation.
- M8 Communicate with home office relative to current future product needs as seen from the field. Design and plan and implement programs which will aid our field offices in improving their knowledge of our products and capabilities.
- M9 Yes. Design of all data processing systems. We have two operations and one programmer assigned to aid in implementing systems and assisting data collection.
- P0 No answer.
- P1 Designed forms submitting information to IBM for report purposes.
- P2 No answer.
- P3 No answer.
- P4 No answer.
- P5 Create awards for sales contests. Create and make different place cards for sales luncheons monthly.
- P6 Originate charts and data of a performance nature, and supervise typing, reproductions, and distribution of material.
- P7 No.
- P8 Only office affairs, e.g. anniversaries, birthdays, etc.
- P9 Projects originated by me are closely related to the responsibilities of the training functions of our company. Also, they relate to records of the

corporate responsibilities to security holders. I maintain personal records for my employer in addition to company financial records.

- 0P No answer.
- 1P No answer.
- 2P No answer. (confidential)
- 3P No answer.
- 4P No answer.
- 5P Set up all office files, books, and procedures..
- 6P No answer.
- 7P Methods and procedures of handling workload. Researching and writing original reports and recommendations. Setting up and maintaining confidential files and records, including transfer to inactive files.
- 8P Simplified filing system, maintenance of suspense correspondence, etc.
- 9P No answer.
- Q0 No answer.
- Q1 Set up statistical forms for others use.
- Q2 Any system changes.
- Q3 Newspaper and ad copies; systemizing some office procedures by use of forms, tables, etc.
- Q4 No.
- Q5 Establishing systems.
- Q6 I do not originate any projects on my own other than projects within my scope of work.
- Q7 At times set up new procedures for filing or keeping records, or design a new standards form.
- Q8 Nothing other than improving on routines already set up.

- Q9 Nothing, exception of composing letters.
- 0Q Occasionally have a bright idea for a story or news-worthy angle.
- 1Q Yes - committee work, agendas, and special projects that Councilman is interested in taking over and completing.
- 2Q Few, except perhaps office parties. In the area of office memoranda, often the secretary can be helpful in bringing to attention of executive certain procedures or practices to be clarified and given attention.
- 3Q None.
- 4Q No.
- 5Q Yes.
- 6Q Originate any program that will accomplish the paper work.
- 7Q No answer.
- 8Q No.
- 9Q None.
- R0 Public Relations Department calls made and summary of cost analysis of same; filing of judgment suits and follow-up on same; losses incurred; real estate and construction loans.
- R1 The only real project was an over-all coverage of all office procedures - and to check back over the previous year to see what had been neglected and needed correction and to instigate a new program.
- R2 Only in the solving of entertainment problems encountered by clients.
- R3 We prepare presentation of our firm for prospective clients. I have prepared many of these and directed their preparation by others. I am responsible for keeping the brochure of our firm updated. I initiate reports of various kinds.

- R4 Many statistical reports; assisted in advertising, both outdoor and brochures; assisted in garment and stationery selections for all chapels and responsible for wording of all standard correspondence forms.
- R5 None, except the creativeness which I bring to it. Yes, I originate projects.
- R6 Create and follow through on keeping office work up to date.
- R7 No, except for writing a lot of my own letters.
- R8 Handling the myriad of day-to-day activities and dealing with people as secretary to very busy executive involved in many of his own business activities, as well as his religious and civic activities which take up about 50 percent of his time. The only projects carried out by me involve activities more on a personal basis than in the sense of office projects.
- R9 Mailing projects; also delegate the letter-writing and mailing to two employees. Originate the letters in connection with each new situation which arises, as the situation relates to the insurance program under my supervision. Supervise the cutting of stencils, etc.
- OR Work up surveys, etc., to get reports started, that can be used by management.
- 1R Improved methods of completing daily work.
- 2R The scope of my work does not so require. I supervise our general mailing list and this is done in accordance with my suggestions - also have other help in mailing of proxy materials for use in annual stockholders meeting, which calls for planning and scheduling.
- 3R No answer.
- 4R Occasionally - as required of most secretaries. Not all of my bosses have known how to utilize a secretary.
- 5R No answer.
- 6R No answer.

- 7R I write my own letters in connection with bookkeeping matters involving our home office or vendors. When I decide there is a better procedure to be used, I present a plan to my supervisor for his approval before launching into execution of it, especially if it involves a rather radical change.
- 8R Answer some correspondence, work up some time sheets for approximately thirty employees.
- 9R Help prepare and conduct courses taught to other employees, submit articles to company's house organ, originate new methods of reporting materials.
- S0 I write routine letters for my employer's or my signature in answering requests for information, copies of reports or briefs, and making hotel reservations, and in making requests for information, reports, etc.
- S1 No.
- S2 No answer.
- S3 No answer.
- S4 None, other than those pertaining to the Executive area.
- S5 No.
- S6 Without realizing it, I have developed a number of office short-cuts or efficiency measures which other girls in my office have found useful enough to adopt. Some of these are functions which directly relieve my employer of unnecessary detail and include both office and personal.
- S7 Composing letters of reply to employer's inquiries.
- S8 No answer.
- S9 No answer.

SPA

- Z0 Design of major and subsidiary systems and procedures compatible with division and company management information reporting system.

- Z1 Research; experiments; tests and finally develop proposals; get them approved and installed.
- Z2 Many.
- Z3 Formulate analyze and design manual paperwork systems for overall plant to include forms design, machine requirements and personnel. Investigate, develop and install work simplification procedures for office and operations groups. Formulate, analyze and develop data processing applications for IBM S/360 computer installation.
- Z4 New procedures involving office management functions; data processing work; computer applications work and systems and procedures.
- Z5 Design of business systems for electronic data processing.
- Z6 Creativity is the essence of the position. The development and cooperative installation are primary responsibilities.
- Z7 Design of the programs for computer and related project for data processing department.
- Z8 Create complete data processing microfilm systems. Layout the general design and there turn the projects over to other people to complete.
- Z9 This job carries the responsibility of being informed in changes in manual procedures and computer applications being made by other firms; measuring the benefit of these ideas for us; and initiating our own ideas.
- OZ Once the systems or operations (existing) have been studied, a period of synthesis occurs in which new or revised methods, systems, or procedures are proposed. When approved, they are usually implemented with the help of others.
- 1Z Devise systems to provide management and control information, cost analysis information, and financial and operating projections. Staff is proportionate to size of undertaking, but almost always short-handed.
- 2Z All types of system studies.

- 3Z Design and installation of vital links in an integrated information system.
- 4Z Creative thinking is inherent in and mandatory for successful systems work. As a supervisor, I administer rather than originate or carry out projects.
- 5Z Whatever ideas that I might come up with to improve an old or implement a new application. All original ideas are usually within the framework of previously defined problems or policy areas.
- 6Z Operations research; develop new systems.
- 7Z Design forms and computer systems; turn over design to programming staff.
- 8Z Systems planning.
- 9Z No.
- Y0 Recommend general approach in project planning.
- Y1 Some - when new types of operations arise, but mainly improvement of current systems and procedures and coordinating activities of departments with data processing.
- Y2 Determination of long-range information requirements coupled with the design and implementation plan to accomplish information objectives.
- Y3 Work closely with advertising agency; assist in planning and coordinating shopping center promotions; promoting interest in prospective tenants until lease is signed.
- Y4 Most systems projects originate with operating people who request systems aid.
- Y5 All within the framework of a total integrated data processing support plan for the organization.
- Y6 Many projects originate within unit, others by management request. All are carried out by the unit; personal contribution depends on type of assignment and available time. All phases of company's activities are studied - from full operation to general headquarters - from source input to final output - maybe large or small.

- Y7 Limited creative aspects to my work and originate almost no projects.
- Y8 Design and recommend new and revised systems.
- Y9 Design and program systems.
- 0Y Have authority to originate new procedures in mechanization of accounting record that conform to company policy.
- 1Y We are given a job to complete. We determine the best way to do the job and do it.
- 2Y Projects are approved by executive board after origination by me.
- 3Y The greatest majority of projects are originated within the organization; some of which by me. Others are referred to me for decision making, but the majority of them are undertaken by subordinates within the framework of an overall plan.
- 4Y Through conversation with either management and/or department manager, a need for a new or revised procedure has been determined, covering a specific area of operation. It is then flow charted, noting use of certain form(s), with sample layout of form attached. When accepted, the procedure is put into written form, in procedures manual, and the forms printed.

APPENDIX F

AUTHORITY TO IMPLEMENT PROGRAMS

AUTHORITY TO IMPLEMENT PROGRAMS

<u>Case</u>	<u>Response</u>
	<u>AMS</u>
A0	Yes.
A1	Yes. Those connected with scope of my management. Also have an opportunity to sit in and plan on programs of general scope.
A2	No. Approval necessary if totally contained within my department. Floor arrangement, systems, procedures, and personnel assignment.
A3	I will not change established basic policies without the expressed approval of the Board of Directors.
A4	Sales contract, etc.
A5	Yes. Anything that will improve service and not cost into the hundreds of dollars. I must get prior approval for costly programs.
A6	Yes. Advertising layouts; sales programs and approaches; methods and procedures.
A7	Any changes or improvements in the accounting or service systems. No approval needed.
A8	All changes in established procedure must have prior approval but occasionally we experiment locally for short periods of time.
A9	Yes. Any program that appears to improve division work. If crosses division line, then requires discussion and approval of my boss.
OA	No answer.
1A	Yes, mainly accounting procedures and forms management.
2A	Only as it effects work in my department.
3A	General office procedures and policies; local office accounting procedures; local office equipment and supplied purchases.

- 4A Yes. Keeping systems and procedures up to date with the latest techniques.
- 5A Yes. Our firm is professional, and I am considered competent to handle any technical problem of our clients.
- 6A All local sales activities - so long as sales quotas are met and a reasonable profit from the branch is attained.
- 7A No.
- 8A Yes. Any directly related to sales force.
- 9A Ordering office supplies; budget - mail service; telex services; upgrading - reorganization of same.
- B0 No.
- B1 Yes, to meet immediate needs.
- B2 Yes. Writing of branch accounting manual instruction; general letters to branch accountants concerning procedures.
- B3 No answer.
- B4 Yes, any project related to employee relations; purchasing; systems; and services.
- B5 Yes, any and all...depending on the availability of my superior to be able to consult with him...if not available I put the plan or program into effect myself.
- B6 Training programs; quality checks.
- B7 Major changes require executive committee approval.
- B8 All new programs must be "sold" to management.
- B9 No.
- OB No answer.
- 1B Yes. This is almost a daily or weekly action. This is just a part of my responsibility.
- 2B Yes. Financial and employee.

- 3B Yes. As concerns internal department operations of accounting or general office nature.
- 4B Yes, accounting; office procedures.
- 5B Changes in established procedures and routines within my jurisdiction.
- 6B Any and all.
- 7B No.
- 8B Some - up to the level of those affecting corporate policy and those involving a change in basic operations.
- 9B Any type of material or procedure to be used in classroom; employer committee meeting; some student club activities.

ARMA

- G0 Major programs of actions would require the department head's approval. Ordinary routine activities and unusual activities that, in my judgment, do not require further approval, we would handle without obtaining further approval.
- G1 Yes, normal operation of office, schedules, planned maintenance programs and departmental training programs.
- G2 Filing systems.
- G3 Departmental procedures - work manuals - personnel training.
- G4 Yes - in setting up office procedural manual, sales approaches, preparing sales materials and letters, etc. New forms are usually checked with superior for additional comments.
- G5 Yes.
- G6 No.
- G7 Any program within my sphere of responsibility. However, I would not make major changes without discussion with my immediate supervisor because of his broader knowledge of operations and he can contribute ideas to my procedures.

- G8 Yes - systems improvement.
- G9 Limited largely to revision of existing programs or elimination of obsolete procedures. Vital records program, microfilming.
- OG Yes, as long as I stay within the realm of central records. Any program which would affect any division in the engineering department would have to be coordinated with the superintendent of that division.
- 1G Yes - most matters pertaining to company policy concerning personnel.
- 2G No.
- 3G No answer.
- 4G Yes, any action in connection with established record keeping program such as file audits, reorganization, destruction of records, etc.
- 5G Training programs, sales campaigns.
- 6G I'm given a wide latitude for initiating new procedures with only verbal approval.
- 7G I authorized branch level dealings such as seminars, demonstrations, displays, etc. Higher authority is required for regional and main office procedures, such as regional meetings, authorized procedures, etc.
- 8G All important projects approved by vice president-treasurer.
- 9G Within my own company.

DPMA

- J0 Yes. All types.
- J1 Yes. Whatever I deem necessary. If the project would last a long time, I would need approval.
- J2 No. Must "sell" every change to a manager (some are developed at their request, requiring no sell. Others are a compromise from their request - sort of "optimum" compromise.)

- J3 Continuing action in area of operations procedures. Unlimited investigation of local new products. Out-of-town investigations require prior approval of DP manager.
- J4 Making analysis of customers communication requirements and preparing recommendations to present to them.
- J5 No answer.
- J6 Yes. Various analysis reports as to customer gas consumption and sales promotion reports.
- J7 Yes, any program, policy, or procedure that will help my section function more efficiently.
- J8 Yes. All actions necessary to operate the data processing section on a day to day basis. Any new jobs or major revision of existing jobs require approval of the controller.
- J9 Only minor changes.
- OJ No.
- 1J No.
- 2J Yes. All types related to my duties provided expenditures of funds is not involved and provided the programs of actions I implement are not in conflict with existing policies.
- 3J Yes. All internal division procedures and regulations.
- 4J No.
- 5J Yes. Hiring, firing, problems between DP and accounting sections.
- 6J Implementing complete financial systems for two separate subsidiary companies.
- 7J Data processing equipment and functions.
- 8J Yes. Almost any degree or type of program providing it is in keeping with our general objectives of selling, servicing, protecting and collecting at a profit.
- 9J Yes. No written authority to do so, any problems with

system will sometimes require explanation to higher authority.

- K0 As division manager, all programs basically originate with me. Sales, production, controls of all types.
- K1 Engineering development; programming or systems support.
- K2 So rare, insignificant.
- K3 No answer.
- K4 Yes. Anything involving accounting, data processing, or internal control.
- K5 Yes. Streamline accounting procedures - machine accounting procedures.
- K6 Yes. Any under accounting, data processing, tax, and feasibility studies.
- K7 No.
- K8 I gather requirement, coordinate with requirements people for the computers to whom we send data as to how they want to see the data. I organize and write requirements for the real time computer complete command program and submit them for approval.
- K9 Yes. Sales development, retrieval of materials, construction of storage and record facilities. Procedures for all departments.
- OK Yes. Any program I feel necessary for the betterment of the system.
- 1K No.
- 2K Sometimes yes, sometimes no - depends on political implications. Usually implement own programs in area of test scoring.
- 3K No.
- 4K Not programs. I can change due dates, procedures, job assignments, etc.
- 5K Hiring and terminating of employees. Maintenance of equipment. Miscellaneous actions costing less than \$500.

- 6K Most action is from higher level, but some local level activity is implemented by me. Job situation is determining factor.
- 7K Yes. Any that involve systems, programming, and operations of our business.
- 8K Engagements established by a partner - some specific action can be implemented without approval.
- 9K Yes. To some extent: teaching methods, suggestions and recommendations for departments, course changes, and the like.
- L0 No answer.
- L1 All implemented programs must have approval of the customer's data processing manager.
- L2 No answer.
- L3 Yes, utility-type programs.
- L4 Everyday systems work, also some new projects.
- L5 Yes, all types.
- L6 We implement actions which are part of the volume tasks, but large new projects are discussed, changed, improved, and finally implemented.
- L7 Yes. All functions which bear upon my duties are within my jurisdiction, with the sole exception of those which involve substantial capital, or non-budgeted expenditures.
- L8 No answer.
- L9 Any action needed to maintain the operating efficiency of production programs or special requests for certain analytical data extraction from master files can usually be implemented without prior approval.
- OL No.
- 1L Yes. Sales production.
- 2L Yes. All except those that effect other departments.

- 3L Hiring and termination of employees; EDP applications that do not affect the overall aspects or workings of the company - prior approval of much major projects must be cleared through the controller.
- 4L Must have concurrence of affected department heads. Otherwise, I develop the system, write programs, procedures.
- 5L Yes, often data processing systems.
- 6L All programs in connection with data processing are within my authority.
- 7L No.
- 8L Marketing program consistent with company objectives.
- 9L No.
- M0 The upgrading of present systems. Small applications that do not require extensive time and money investments.
- M1 Yes. Within scope of department functions.
- M2 Yes. Anything that would be of any benefit to company. I cannot spend capital funds however without approval.
- M3 Yes. Anything related to present operations.
- M4 No.
- M5 Yes. Sales promotions.
- M6 Yes. Sales quotations.
- M7 Yes. Whatever is determined productive or necessary.
- M8 Yes. As they relate to other answers.
- M9 Yes. Data processing type reports and management information. Changes in customer billings, etc.

NSA

- P0 Only pertaining to clerical facet of managing office.
- P1 No.

- P2 No answer.
- P3 No answer.
- P4 That relate to my own activities but not those of others.
- P5 Yes. New filing systems, training programs, etc.
- P6 No.
- P7 No.
- P8 Any clerical routines that will improve procedures or efficiency.
- P9 Yes, if related to training and records.
- OP No answer.
- 1P No answer.
- 2P No answer. (confidential)
- 3P Make export quotations, as required, set up records and files for best interest of all.
- 4P No answer.
- 5P Yes. Anything improving the efficiency of the paper work.
- 6P No answer.
- 7P If over-all program has been approved, I am free to proceed on my own as to method of accomplishing such, including purchase of necessary supplies or employment of outside services, if necessary.
- 8P Minor activities pertaining to routine responsibilities.
- 9P No answer.
- Q0 No.
- Q1 No.
- Q2 In a very limited area.

- Q3 Records management; simplification of office procedures and systems. Purchasing methods, office supplies, etc.
- Q4 No.
- Q5 Purchasing actions and transfer of material between plants.
- Q6 No.
- Q7 No answer.
- Q8 No.
- Q9 Ordering material up to certain value.
- 0Q Occasionally have a bright idea for a story or news-worthy angle.
- 1Q Yes, with Civic Clubs, and actions needing emergency treatment.
- 2Q No.
- 3Q No answer.
- 4Q No.
- 5Q No.
- 6Q Yes. Originate any program that will accomplish the paper work.
- 7Q No answer.
- 8Q Yes, anything in secretarial.
- 9Q No.
- R0 Only those concerning the personnel under my immediate supervision.
- R1 Yes, in setting up office procedural manual, sales approaches, preparing sales materials, and letters, etc. New forms are usually checked with superior for additional comments.
- R2 No.

- R3 Most of our major decisions are reached in our Partners Meetings. I am assigned the responsibility of implementation often times.
- R4 Yes, better working arrangements and conditions for women employees; suggesting better ways to secure statistical data.
- R5 Yes. Programs involved in all areas which I supervise. However, any time this overlaps or influences the work of any other employee or department, I consult those who are involved - not under my supervision - out of courtesy.
- R6 Any type pertinent to getting the job done expeditiously.
- R7 I do make a number of suggestions regarding flow of work, equipment needed, etc., but these are suggestions only, and usually acted upon by my immediate employer.
- R8 None.
- R9 A few such as answering correspondence, composing letters for the employer's or superior's signature, preparing monthly reports, etc.
- OR No.
- 1R Limited.
- 2R No answer.
- 3R No answer.
- 4R No.
- 5R No.
- 6R Some, such as new ordering procedures for advertising materials, and handling invoices for same.
- 7R Any programs or actions of consequential nature must be approved by my supervisor. Methods, procedures and such which are of minor importance need no prior approval.
- 8R No answer.

- 9R No answer.
- S0 No.
- S1 No.
- S2 No answer.
- S3 No answer.
- S4 No.
- S5 All work pertaining to customer orders.
- S6 No.
- S7 Not in matters of any consequence. In matter of a routine nature, blanket approval already obtained.
- S8 Very little.
- S9 No answer.

SPA

- Z0 No.
- Z1 Only when affecting my own department. All other must be approved by functions affected.
- Z2 Yes, almost anything within the accounting or data processing areas.
- Z3 Yes, provided it is interpreted to be within the company's broad policy outline. Furniture, equipment, communications, office facilities, mail distribution points, and most data processing applications fall into the types asked.
- Z4 No.
- Z5 Yes, establish technical standards; select applications for systems studies.
- Z6 Yes, all - especially where financial benefits are involved or paper flow is involved.
- Z7 Certain ones of those already mentioned.

- Z8 Yes. All programs which do not affect city policy.
- Z9 Yes, any strictly computer applications which do not involve requirements of other departments.
- OZ Only programs within certain guidelines. For instance, once it has been decided to automate circulation procedures, it is my responsibility to design and implement programs which will carry them out.
- 1Z Information system components design.
- 2Z Yes, any and all system studies.
- 3Z To insure proper input and output for operational and proposed EDP systems.
- 4Z No.
- 5Z No.
- 6Z Yes, clerical and data processing procedures.
- 7Z No.
- 8Z Minor purchases; short leaves of absence.
- 9Z Yes, I am given objectives and it is my responsibility to find means of accomplishment.
- Y0 Program changes, new systems.
- Y1 Minor programs and changes - all major changes must be approved by the affected department.
- Y2 Yes, to the extent that the action or program does not require a large expenditure or affects the work of others outside area of responsibility.
- Y3 Yes - complete purchasing of office requirements as well as landscape design - including furniture, miscellaneous office supplies and equipment, etc.
- Y4 No.
- Y5 Programs or actions can be implemented within broad areas such as a department or division.

- Y6 Yes - minor daily routine type. All major, significant matters are submitted to higher management.
- Y7 Not generally.
- Y8 Yes, see preceding topic.
- Y9 No.
- OY Must have prior approval before implementing. Approval will depend on projects conformity to policy and if it is economical.
- 1Y No.
- 2Y Only work measurement.
- 3Y Scope, objectives, and basic approach is presented to higher management for approval. Within this broad guide line, specific applications and programs are initiated based on the judgment of individuals within the organization.
- 4Y All procedures and also all forms are approved by top management before becoming official for use. Any action within my own department as to operation is left strictly up to me, as it is of a technical nature.

APPENDIX G

RESPONSIBILITY FOR EQUIPMENT AND PROPERTY

RESPONSIBILITY FOR EQUIPMENT AND PROPERTY

<u>Case</u>	<u>Response</u>
	<u>AMS</u>
A0	No answer.
A1	All office equipment.
A2	Every piece except computer.
A3	All of the assets, bank accounts, furniture and fixtures, investments, etc.
A4	All of it.
A5	All office machines; reproduction, and mail equipment.
A6	All including transportation fleet.
A7	Electronic accounting machines and all other office equipment.
A8	All.
A9	All machines and equipment assigned to division.
0A	Normal office equipment.
1A	Office.
2A	Small office machines; furniture; TWX.
3A	No answer.
4A	A small re-sale inventory; some rental inventory; and all office machines.
5A	Office furniture and fixtures.
6A	All office equipment and field sales inventory.
7A	None.
8A	None specifically.
9A	Autos, printing, air conditioning, heating, cafeteria, etc.

- B0 Calculator.
- B1 All office equipment and acting as landlord of building we occupy.
- B2 Office machinery and equipment.
- B3 No answer.
- B4 Building, office furniture, and equipment.
- B5 Entire plant and furnishings (\$16,400,000).
- B6 Desks, chairs, calculators for four people; office quarters.
- B7 Building, furniture, fixtures, office equipment.
- B8 The usual office equipment, furniture, supplies, and two autos.
- B9 Office supplies and purchasing; building maintenance.
- OB Billing machine, kardomatic (key punch), adding machines, calculators, etc.
- 1B All office machines, fixtures, furniture, and equipment.
- 2B Office and warehouse.
- 3B Keep record of all assets; directly handle all office machines, and general station vehicle.
- 4B Cash; office equipment.
- 5B Motor pool; all office furniture and mechanical equipment.
- 6B All - consists mostly of desks, office machines, stationery, and other supplies.
- 7B Office furniture and fixtures.
- 8B Indirectly responsible for all property - directly responsible for office and office equipment.
- 9B Office machines and furniture.

ARMA

- G0 Purchase and maintenance of about \$6 million in furniture and office machines, operation of six coffee bars, planning of remodeling in the building, records and microfilm equipment.
- G1 All office furniture and equipment and all building equipment.
- G2 Office machines, furniture, filing equipment, shelving, and a warehouse.
- G3 Records storage, warehouse, microfilm equipment - typewriters, Xerox machine, shredding machines, adding machines.
- G4 Through the office procedures being set up, the inventory and loan equipment perhaps would qualify here.
- G5 No answer.
- G6 File shelving, cabinets, reader-pointers (microfilm), electro sordex and the usual office machines.
- G7 Postage meter, scales, flexowriter, four electric typewriters, one manual typewriter, one teletype.
- G8 Any office furniture and equipment.
- G9 Normal office equipment plus shelf filing for material above.
- OG 6300" Tab shelving, one IBM microfilm reader, two tab-card cabinets, one Remington manual typewriter, 180 flat drawers for engineering drawings.
- 1G Vital records.
- 2G None.
- 3G All company records and files.
- 4G Responsible for ordering and maintaining all filing supplies. Recommend filing equipment. Maintain the VSMF-Chemical Microfilm file, and Recordak reader-printer. Postage machine, mail scale, and TWX machine.
- 5G All facilities and equipment in southern Texas and Louisiana.

- 6G Office supplies and forms, records managing equipment, mail room equipment.
- 7G All equipment sold within my branch territory plus all equipment charged out to Houston Branch Sales Department.
- 8G None as departments do work and we contract storage.
- 9G No answer.

DPMA

- J0 Computer.
- J1 Computers.
- J2 All punched card and tape operations in south Texas.
- J3 Computer equipment.
- J4 Data-phone, data speed, teletype, transmission channels.
- J5 Computers; equipment leased from IBM.
- J6 Computers and peripheral equipment.
- J7 Office furniture, decollator, forms bursters, shredder, tape cleaner.
- J8 Computer and related equipment.
- J9 Computers.
- OJ None.
- 1J None.
- 2J Office machines and furniture.
- 3J Computing and data processing equipment.
- 4J None.
- 5J Computer equipment, desks.
- 6J None.
- 7J All data processing equipment.

8J Computers, audio-visual aids, general office equipment.

9J Computer equipment.

K0 All \$250,000.

K1 Buildings, vehicles, capital equipment.

K2 Financial records.

K3 Computer and related equipment.

K4 No answer.

K5 Office machinery.

K6 Data processing.

K7 None.

K8 Computers.

K9 All of it.

OK All EDP and related equipment.

1K None.

2K IBM.

3K No answer.

4K Computer equipment.

5K Computers and data processing equipment.

6K Computers, data processing equipment, electric typewriters.

7K Computer equipment, plotters, Xerox.

8K None.

9K Data processing equipment, typewriters, and various other machines used in the BA and DP departments.

L0 No answer.

L1 All office equipment.

- L2 All.
- L3 Computer.
- L4 No answer.
- L5 All computer equipment.
- L6 All EDP equipment and space therefor.
- L7 All office equipment of every kind from pencils to IBM.
- L8 None.
- L9 None.
- OL Offset printing machine, card punch machines, adding machines, and typewriters.
- 1L All office equipment for district sales office.
- 2L Building, furniture, office machines, and equipment.
- 3L Computers and associated data processing equipment.
- 4L Computers and related peripheral equipment.
- 5L Computer installation.
- 6L Computer.
- 7L Computer and related equipment.
- 8L Nil.
- 9L Computer and related equipment.
- M0 All data processing equipment.
- M1 Two computer systems, leased processing equipment, furniture, desk calculators, typewriters, etc. Value \$650,000-\$750,000.
- M2 All data processing; some office allocation.
- M3 All commercial data processing equipment; fixed assets for the group and office space.
- M4 None.

- M5 Data processing.
- M6 \$100,000 electronic equipment.
- M7 All EDP and auxiliary equipment.
- M8 None.
- M9 All data processing equipment; office copying equipment; postage machines; teletype IBM 1001 receiver; two Friden flex-o-writers, and related equipment.

NSA

- P0 No answer.
- P1 Calculator, adding machine, IBM electric typewriter, copy machine, stamp machine.
- P2 Electric typewriter, adding machine, calculator.
- P3 No answer.
- P4 IBM electric typewriter.
- P5 IBM electric typewriter.
- P6 Office equipment.
- P7 Normal office furniture and equipment - also a calculator.
- P8 Office machines; files, both personnel and general.
- P9 No answer.
- OP Typewriter.
- 1P Teletypes, data speed machine, flexowriter, multilith.
- 2P No answer. (confidential)
- 3P IBM typewriter and various smaller equipment.
- 4P None.
- 5P All office equipment and space.

- 6P All typical office equipment. Purchase and maintenance therefor.
- 7P Stationery and supplies; forms. Office equipment and furniture, after receiving approval for major purchases.
- 8P Regular office equipment.
- 9P One of a few keys to enter office building; one of two keys for plant file storage area.
- Q0 IBM Executive typewriter, adding machine, copy machine.
- Q1 IBM typewriter, comptograph adding machine.
- Q2 Office equipment.
- Q3 Files, typewriter, adding machine, calculator, postage machine, photocopying machine.
- Q4 Office equipment.
- Q5 Typewriter, calculator.
- Q6 Reproducing machine, all office machines.
- Q7 Typewriters, adding machine, calculator, and drafting equipment.
- Q8 Xerox, adding machine, calculator, typewriter.
- Q9 None except office equipment necessary for job.
- OQ Electric IBM typewriter. Monroe adding machine. 16 MM projector equipment. Carousel slide projector.
- 1Q Usual office equipment, furniture, Xerox and other copying machines, adding and calculating machines.
- 2Q Standard secretarial equipment.
- 3Q Electric typewriter and dictating equipment signed to me personally.
- 4Q None.
- 5Q No answer.

- 6Q Minimum - office typewriters and ten-key adding machine.
Have use of calculator.
- 7Q Typewriter, Gestetner, adding machine.
- 8Q Drugs, sterilizing, ordering office and medical supplies.
- 9Q Mailing machine, mailing scales, PBX board, Addressograph machine, Addressograph embossing machine, Mimeograph machines, Xerox 914, typewriters, adding machines, (in my particular department.)
- R0 Standard equipment such as electric typewriters and adding machines.
- R1 Through the office procedures being set up, the inventory and loan equipment perhaps would qualify here.
- R2 All office equipment and supplies.
- R3 Office equipment and supplies primarily. Can recommend on other things - furniture, interior decorating items; I do not authorize any major expenditures with partners' approval.
- R4 Typewriters, calculators, furnishings in executive suite including books.
- R5 Typewriter, photographic, reproduction equipment, and various records of the partnerships and various corporations, subsidiaries owned by my company.
- R6 IBM electric, adding machine, check-writer, addressograph.
- R7 Typewriter, dictaphone, Nyematic dictating system.
- R8 None.
- R9 Filing cabinet, three typewriters, and the filing of the superior's correspondence, as well as that of the insurance program which I supervise.
- OR None.
- 1R Office machines, manuals, policies, and supplies.
- 2R No specific areas assigned.

- 3R No answer.
- 4R Office furniture, executive level, typewriter, files.
- 5R Typewriter, files, instruction manuals.
- 6R All office equipment (typewriters, copier, adding machine, Remington Karkex).
- 7R All company equipment and physical properties (not real estate) are in my area of responsibility. I maintain inventories for all district offices in the Southwest Region.
- 8R IBM Executive typewriter.
- 9R Office equipment.
- S0 Desk, chair, typewriter, telephone stand.
- S1 Only that in the business office.
- S2 General office equipment.
- S3 All.
- S4 Machines directly applicable to performance of my specific duties - electric typewriter, copying machine, adding machine.
- S5 Teletype, typewriter, all supplies.
- S6 The ordinary equipment used by a top-level secretary.
- S7 IBM typewriter, copy machine located on floor for general use but serviced by hall attendant.
- S8 None.
- S9 No answer.

SPA

- Z0 None.
- Z1 All office equipment, supplies and EDP.
- Z2 Data processing.

- Z3 Office building, office furniture and equipment, printing equipment, IBM S/360 computer and various unit record and key punch machines. Includes yearly budgets for new capital asset purchases.
- Z4 General office equipment, data processing equipment, communications equipment.
- Z5 Corporate electronic data processing equipment.
- Z6 Model 20, systems 360 - multiplex office machines.
- Z7 No answer.
- Z8 Four computers and the associated office equipment.
- Z9 None.
- OZ Library housed data processing equipment once we implement automated systems.
- 1Z All office and computer hardware, software, and programs.
- 2Z Computer and all data processing equipment.
- 3Z Stenographic and EDP equipment.
- 4Z None, except for usual items of office furniture.
- 5Z None.
- 6Z Data processing and related mechanized equipment.
- 7Z Print shop - 1410 - 360 - Honeywell 200 computers.
- 8Z Computers.
- 9Z Offices and office equipment and machines.
- Y0 Routine office equipment.
- Y1 None except office furniture, etc.
- Y2 Medium scale computer (tape system), key punches and tabulating equipment.
- Y3 Office furniture, decor and all office equipment.

- Y4 None.
- Y5 None.
- Y6 Normal office furniture and equipment. (EDP and re-
 lated equipment under control of parent company.)
- Y7 None.
- Y8 None.
- Y9 None. In advisory capacity.
- OY None.
- 1Y Share responsibility for IBM 1410 computer.
- 2Y None.
- 3Y Miscellaneous office equipment.
- 4Y Executive typewriters, Varitypers, light tables, camera
 and negative making equipment.

APPENDIX H

CONTINUING EDUCATION

CONTINUING EDUCATION

<u>Case</u>	<u>Response</u>
	<u>AMS</u>
A0	No answer.
A1	Yes, management and psychology.
A2	Yes. Personnel management.
A3	No. I do attend several conventions annually.
A4	No.
A5	Yes. M. B. A.
A6	Always, at times I feel inadequate in almost every sphere of activity.
A7	Yes. Special courses in data processing.
A8	Yes. Better knowledge of insurance coverage rating.
A9	Yes. Most businesses have special induction courses; management seminars.
0A	Yes. Data processing and accounting.
1A	Yes. CPA training; corporation law.
2A	Yes. Increase technical knowledge in my field.
3A	Yes. Economics.
4A	Yes. Only with respect to keeping up to date with latest information.
5A	Yes. In field of insurance.
6A	Yes. General business management courses.
7A	No answer.
8A	No.
9A	No.

- B0 Yes. IBM data processing.
- B1 Yes. Data processing.
- B2 No.
- B3 No answer.
- B4 No.
- B5 Yes. Have B.S.; now need M.S. or M.A.
- B6 Yes. Accounting; records management.
- B7 No answer.
- B8 Yes. More data processing and labor relations.
- B9 Management; merchandising; business administration;
business English; this isn't necessary in the job;
but it is always helpful.
- OB Yes. Data processing and computers.
- 1B No.
- 2B Attend seminars on management level.
- 3B No.
- 4B No.
- 5B Yes. Continue in management to keep abreast of the
latest happenings.
- 6B Always.
- 7B Yes. Master's degree.
- 8B No.
- 9B Occasional course to keep up to date.

ARMA

- G0 Yes. I could use further courses in records manage-
ment and space planning.
- G1 Yes, seminars and short courses that time allows.

- G2 No answer.
- G3 No answer.
- G4 Yes. I would like to take some courses in data processing, computing, etc., to keep up with the trend and to have these courses if a future job qualification called for this.
- G5 Yes. Systems controls; some legal knowledge.
- G6 Yes. Systems and procedures and data processing.
- G7 No.
- G8 No.
- G9 No.
- OG No.
- 1G No answer.
- 2G No.
- 3G Yes. Systems and procedures and records management.
- 4G Yes. Any course which would help me to keep up with the modern trends in record keeping.
- 5G No.
- 6G No.
- 7G Yes, keeping up to date on systems and procedures, records management, and communications.
- 8G No answer.
- 9G No.

DPMA

- J0 No answer.
- J1 No.
- J2 Yes. Keep current on available equipment, systems, and machine language used by company.

- J3 Absolutely. Continual review in DP systems, management (DP and general business).
- J4 Yes. M.B.A. - marketing.
- J5 Yes. Math and programming languages.
- J6 No.
- J7 No.
- J8 No answer.
- J9 Yes. Logic, math and keep up with new equipment.
- OJ Yes. Principally in field of mathematics.
- 1J Yes. Math.
- 2J Yes. Masters in engineering management.
- 3J Yes. Math.
- 4J No.
- 5J Yes. Work toward masters as CDP.
- 6J Yes. Management.
- 7J Advanced management.
- 8J No. Professional education (e.g.) the arts of the industry such as communications, real time, and mass memory concepts. etc.
- 9J Yes. Accounting, math.
- K0 Yes. Management techniques.
- K1 Yes. Latest technological advances in engineering and computer hardware.
- K2 Yes. Math, engineering, masters degree.
- K3 Yes. Technical systems.
- K4 Yes. Accounting and management.
- K5 No.

- K6 Yes. Law.
- K7 Yes. Management.
- K8 No answer.
- K9 No.
- OK Yes. All phases of EDP.
- 1K No.
- 2K Yes. Political sciences.
- 3K Yes. Area of new development in field of data processing.
- 4K No.
- 5K Yes, math and engineering.
- 6K Yes. EDP, programming, systems and procedures.
- 7K Yes. General management.
- 8K Yes. CPA, law degree.
- 9K Yes. Work toward higher degree to keep up.
- L0 Yes. Data processing and communications.
- L1 Yes. Advanced studies in business, mathematics, and management.
- L2 Yes. M.B.A.
- L3 Yes. COBOL, insurance, new equipment, mathematics, actuarial science.
- L4 Yes. Data processing.
- L5 Yes. Personnel development.
- L6 Yes. Graduate work in systems and accounting.
- L7 Maybe. Law.
- L8 Yes. Accounting.

- L9 No. Informal training courses, seminars, and professional society participation are adequate.
- OL Yes. Business administration and math.
- 1L No.
- 2L No.
- 3L Yes. Operations research, current trends within the industry.
- 4L Yes. Mathematics, management science techniques, programming languages.
- 5L Yes. Operations research.
- 6L No.
- 7L Yes. Keeping updated on all new equipment.
- 8L Yes. General management, accounting, finance, production, marketing.
- 9L Yes. Business administration for a clear picture of accounting problems.
- M0 Yes. Management courses.
- M1 Yes. Applied math; personnel management.
- M2 Yes. Management sciences.
- M3 Yes. Management information courses.
- M4 Yes. DPMA diploma.
- M5 Yes. New equipment requires minimum two to three weeks each year.
- M6 Yes. Sales.
- M7 Yes. Management science.
- M8 Yes. Management science.
- M9 No.

NSA

- P0 Yes. Business administration and economics.
- P1 Yes. To keep abreast of changes regarding accounting and office and IBM equipment.
- P2 No answer.
- P3 No.
- P4 Yes. I did not graduate from high school; have audited U. of H. CPS classes. Have passed four sections of CPS exam in two years.
- P5 Yes. General.
- P6 Yes. Management development.
- P7 No.
- P8 Yes. Psychology.
- P9 No answer.
- OP No answer.
- 1P No.
- 2P Yes. All kinds.
- 3P No answer.
- 4P No answer.
- 5P Yes. Geology, advanced accounting, and law.
- 6P Yes. Occasional review of overall secretarial training plus side interests (languages).
- 7P Yes. Keep up with current systems and procedures. General business, investment, legal, and economic subjects.
- 8P Yes. CPS certificate.
- 9P Yes. Language, human relations.
- Q0 No.

- Q1 Yes. CPS.
- Q2 Yes.
- Q3 Yes. Major in business, particularly law and accounting.
- Q4 Yes. CPS.
- Q5 No. Management perhaps.
- Q6 Yes.
- Q7 Yes. Office management, data processing, accounting.
- Q8 Yes. CPS.
- Q9 Yes. Secretarial skills, economics, market reports, data processing.
- Q0 Yes.
- 1Q Yes.
- 2Q Executive secretarial (keeping up to date), general academic, citizenship participation, preparation to teach, special talents development.
- 3Q Yes. Am taking a course in programming to better understand the functions of the office.
- 4Q No. If I were younger, I would be interested.
- 5Q Yes. Management courses.
- 6Q No.
- 7Q Yes. Shorthand and typing review.
- 8Q Yes. Medical.
- 9Q No.
- R0 Yes. Basic skills and foreign languages.
- R1 Yes. Data processing, computing.
- R2 Yes. M.B.A. (marketing); CPS.
- R3 Yes. Economics, business administration, management.

- R4 Yes. Human relations, records management, basic skills, economics, accounting, tax data, business law.
- R5 Yes. Refresh skills.
- R6 Yes. Any and all for which I can find the time.
- R7 Yes. New secretarial methods, new equipment.
- R8 No.
- R9 Yes. Business administration.
- OR No.
- 1R Yes. Insurance, secretarial skills, business management, English.
- 2R Yes. Resume work toward degree.
- 3R Yes. Liberal arts, fine arts, public relations.
- 4R Yes. College.
- 5R Yes. CPS.
- 6R Yes. CPS.
- 7R Yes. Personnel and office management.
- 8R Yes. CPS.
- 9R Yes. Management, cost accounting, math.
- S0 Yes. Business English usage, latest office methods, and filing procedures.
- S1 No.
- S2 No answer.
- S3 Yes. Management programs.
- S4 Yes. Updating procedures, skills, new methods, efficiency shortcuts.
- S5 Yes. Skills.
- S6 Yes. Journalism, advertising, liberal arts.

- S7 No.
- S8 No.
- S9 Certainly would be beneficial.

SPA

- Z0 No. Seminars, conferences, and informal education must be continued however.
- Z1 Yes. M.A. or M.B.A.
- Z2 Yes. Keep informed as to latest developments in accounting and data processing.
- Z3 Yes. Management tools and electronic data processing techniques.
- Z4 Yes. Financial management and mathematics.
- Z5 Yes. Additional training in mathematics and business systems design.
- Z6 Yes. Math and management.
- Z7 Yes. Master's degree. Computer.
- Z8 Yes. Graduate level.
- Z9 Yes. Need to balance business (accounting) background with math and statistics.
- OZ Yes. Computer sciences and business management courses.
- 1Z No.
- 2Z No.
- 3Z No.
- 4Z No.
- 5Z Yes. Business, economics, and operations research courses.
- 6Z Yes. Management and administrative philosophy, sales.
- 7Z No.

- 8Z Yes.
- 9Z Yes. Need more legal training.
- Y0 Yes. Math.
- Y1 No answer.
- Y2 Yes. Management sciences.
- Y3 Yes. Office management, shopping center management,
accounting.
- Y4 Yes. Mathematics.
- Y5 Yes. Doctorate in business.
- Y6 No.
- Y7 Yes. Higher degree.
- Y8 Yes. EDP.
- Y9 Yes. M.B.A. (stressing EDP).
- 0Y Yes. In all areas to keep up with new procedures and
machines.
- 1Y No.
- 2Y Yes. In the "behavioral" sciences or psychology,
philosophy, logic, etc.
- 3Y Yes. Law and mathematics.
- 4Y Yes. Computer education, new printing equipment to
meet the needs of our company.

APPENDIX I

THE FUTURE

THE FUTURE

<u>Case</u>	<u>Response</u>
	<u>AMS</u>
A0	No answer.
A1	Unlimited as more automatic equipment becomes available.
A2	Faster and more complicated communications; more automation; higher skills.
A3	Medicare may eventually effect my type of services to the two major professions, medical and dental.
A4	No answer.
A5	Very good. Services are coming more important all the time. Today, everything is constantly changing.
A6	Expansion; retirement; program controlled by key men now in training.
A7	Increased responsibility in the field of financial management. More problems because of increase in number of branches and expanding business.
A8	Broadening sphere of interest; more responsibility.
A9	Job becomes more comprehensive each year with new equipment available and new tools of management. Rely more on machine information. More information available to make decisions. More specialists reporting from certain areas.
0A	Growth with progressive company; computers and more computers.
1A	Improvement in data processing and personnel management.
2A	Greater degree of mechanization; decrease in routine clerical duties.
3A	No answer.
4A	We are a very small company with seven employees and as it grows, so grows my responsibilities.

- 5A More governmental control.
- 6A More emphasis on profit centers and less on "sales" for sales sake alone.
- 7A No answer.
- 8A No answer.
- 9A More specialized and more in demand as industries grow in this area.
- B0 More help.
- B1 Possibility of promotion to home office at New York as general office manager or in finance or accounting.
- B2 No answer.
- B3 No answer.
- B4 Administrative areas will continue to increase in importance and will one day encompass all functions nonoperational.
- B5 Corporate executive vice presidency.
- B6 Mechanization of reports work.
- B7 No answer.
- B8 A completely new world of business due to automated systems and governmental regulations.
- B9 In our particular organization this is the top position for a person who is not what we call "a professional." The social service workers are listed as such and those of us in "the office" are classified as "clerical."
- OB Damned little.
- 1B Advancement to officer level.
- 2B My position is top management and shares ownership. The future lies with growth.
- 3B Upgrading of position to more importance as administrative and financial management become important in all types of business.

- 4B More data processing and changes in business equipment.
- 5B One must get broader fields - cover all non-technical areas - in order to do the best job and be qualified to move to a better position.
- 6B My position may be abolished completely if government encroachment continues as it has been developing.
- 7B No answer.
- 8B Controller; general manager.
- 9B Considerable growth and expansion.

ARMA

- G0 Expansion of services to more areas of the company family, greater importance of my position, upgrading in both title and salary as we continue to prove our worth to the company.
- G1 Bright future, not only keep up with present change but have an action part in causing things to happen.
- G2 Especially for a woman, a new and interesting career - since records and their control has become more and more important to both industry and government.
- G3 No answer.
- G4 If a company like this one does expand and grow, there is a good future for me also. I am also entitled to any commissions on equipment that I sell.
- G5 No answer.
- G6 The field is wide open; the need is great; and very few trained people are available.
- G7 Machines will eventually do the dredgery-type duties which clerical personnel now do. The supervisor must be able to evaluate, which these are and have them streamlined by the time the machines are available. An appreciation of the costs of data processing is important.
- G8 Potential unlimited in management and industrial engineering.

- G9 Great opportunities for improvement in eliminating duplication and retention of record volume.
- OG More responsibilities and challenges with the continued growth of paperwork and engineering drawings.
- 1G Position increases with size and area covered by the company.
- 2G Record organizing services a division of Remington Rand Office Systems. Specialists in the field of all phases of record keeping who supervise various company reorganization programs.
- 3G No answer.
- 4G Changes in filing equipment and filing procedures. Upgrading of records personnel.
- 5G Growth of the microfilm industry.
- 6G No answer.
- 7G Advancement to higher position. From Branch to Regional and from Regional to Main Office Management.
- 8G No answer.
- 9G Yes, and we could use help now.

DPMA

- J0 No answer.
- J1 There are few positions like mine. Most companies are big enough or organized properly. They perform my duties piece meal or not at all. I see more positions like mine being created.
- J2 Hard to tell since this is a new field. Good stepping stone to better job.
- J3 Upgrade to methods and procedures group (allowed for and approved but unstaffed until possibly 1968-1969). DP management team which will cut across all divisions and departments, branches, and sub-offices.
- J4 Unlimited growth.

- J5 More diversified in new computers.
- J6 Computer system change within five years.
- J7 Changes in the field of data processing. This position is an excellent one for training of top-management people.
- J8 No answer.
- J9 Growth.
- OJ Field is rapidly expanding and will require more trained personnel. Most changes will occur due to more sophisticated programming and information systems.
- 1J I feel there will be continued development in the computer field, and there will be a greater need for skilled programmers in the future.
- 2J Rapid growth, especially for personnel with technical degrees - such as math, physics, and engineering.
- 3J Marriage of commercial and technical programming to produce a professional DP or programmer type.
- 4J At my company supervisory personnel constantly change positions. Sometime in the next year, I could be transferred to supervise an accounting office.
- 5J No answer.
- 6J Hopefully, this will be a managerial "prep-school."
- 7J Primarily an upgrading of the function and therefore a more responsible position in the overall company organization.
- 8J Continual growth of responsibility.
- 9J Greater need for math and technical background.
- K0 No answer.
- K1 No answer.
- K2 Little change for 5-7 years. Thereafter, primarily a need for managerial types with sales ability and more technically qualified persons.

- K3 Management responsibilities.
- K4 I expect this position to be changed to comptroller with the parts department falling under my jurisdiction also.
- K5 No specific changes.
- K6 No answer.
- K7 The field will most likely split to computer professionals and coders.
- K8 Systems will become more refined, complex, and flexible.
- K9 Secret of success is change. Our business didn't exist six years ago. It differs completely from three years ago. Five years from now it will be different again. Education, or thinking is the process of changing your mind.
- OK A continued growth both in position within the company and a broader knowledge of the data processing field.
- 1K Brilliant opportunities for growth and advancement.
- 2K A tremendous growth in the field of computer aided instruction.
- 3K There is a present and growing demand for qualified personnel in higher education in the area of data processing.
- 4K The only thing consistent about data processing is change. I believe telecommunications will grow rapidly.
- 5K Increased responsibilities and duties. Higher classification of jobs.
- 6K No answer.
- 7K More recognition as an important management position and more support from higher management people.
- 8K Future very bright; job opportunities outstanding.
- 9K Constant changes and upgrading knowledge and program.
- L0 Thorough knowledge of all phases of data processing.

- L1 Good future; we should tend more to specialize more in systems areas and computer software rather than in problem directed programming.
- L2 Greater delegation of responsibilities.
- L3 Periodic massive changes to new equipment.
- L4 A true management information system is the objective.
- L5 Professional status such as CPA and top-level management.
- L6 Controller as such will probably be eliminated in favor of a vice president in charge of data processing.
- L7 Considerable work, worry, and concern. Heavy responsibility, tough, murderous deadlines with little recognition of accomplishment except from colleagues. Only saving grace is that salary will likely rise too.
- L8 Need for data processing background.
- L9 Future emphasis will be more on systems rather than a programming environment with attention to the need to be knowledgeable in the entire scope of problem definitions and solution.
- 0L The chance to work with computer input and the ever-growing need of oil statistics for the oil industry.
- 1L The job should get better with each passing year.
- 2L Increasingly technical.
- 3L An increasing demand for increased information, detail, and reporting by exception leading to a management information system with larger computers and increased staff.
- 4L More integrated systems through more economical teleprocessing and mass storage facilities.
- 5L Yes. Much more demand in the future.
- 6L Better management reports to absorb details.
- 7L Salary advancement.
- 8L Unlimited.

- 9L Sound advancement built on experience and acquired knowledge.
- M0 A top management position dealing with all areas of the business.
- M1 Increased responsibility for utility of an important management tool. Increased authority to manage communication flow.
- M2 Brilliant with management support job enlargement as company grows.
- M3 The data processing field is becoming more management oriented each year. As data processing becomes a management tool, the manager becomes, by necessity, a member of the management team.
- M4 A continual change; duties, position in management and salary.
- M5 Fastest expanding industry in EDP.
- M6 Sales.
- M7 Hard work. Eventually top management on a vice presidential level.
- M8 A greater formalization of planning functions, as a gathering point for prospect requirements.
- M9 Unlimited possibilities. Depends mainly on ability to adapt to change.

NSA

- P0 Increasing demand for an over-all, comprehensive knowledge of business management.
- P1 No answer.
- P2 No answer.
- P3 None.
- P4 Less clerical work; more administrative assistant duties.
- P5 More responsibility on the management team.

- P6 More responsibility, higher qualifications, higher formal education.
- P7 Additional duties and additional responsibility with a possible lessening of actual secretarial duties for employer.
- P8 Continuing learning, data processing and communication have and are still becoming a greater challenge. Routine matters presumedly will remain status quo.
- P9 Added responsibilities and compensation.
- OP No answer.
- 1P No answer.
- 2P Nothing.
- 3P Splendid opportunities.
- 4P No answer.
- 5P Increased need for all-purpose secretaries.
- 6P Responsibilities grow with business in a one-girl office.
- 7P None.
- 8P More specialized training in secretarial work.
- 9P It seems to me that you have to run "faster" to keep up with the technological changes that occur so rapidly in the petrochem industry. I have had no chemistry background and a basic knowledge would be very helpful now and in the future. As the so-called bosses become more proficient, then the secretaries must keep up.
- Q0 No.
- Q1 No.
- Q2 I see my position growing as our organization grows.
- Q3 Yes. Possibly the utilization of data processing and other electronic machines.
- Q4 As work load increases probably will have help to do minor work.

- Q5 Purchasing agent perhaps - no change except management of the department.
- Q6 I feel a person must continue their education. If they are going to stay in the field, they must become professional.
- Q7 Possible office manager-secretary.
- Q8 There will always be a need for one willing to work. Machines will never replace us.
- Q9 Is dependent on advancement of boss, and keeping up abilities.
- OQ No answer.
- 1Q Just work.
- 2Q I believe the immediate future will open more fields in supervision for women; and less prejudice will be shown in decisions toward advancement in salary and title and responsibilities.
- 3Q Expect to be named "Special Assistant" or similar title as size of branch increases and duties increase.
- 4Q None.
- 5Q No answer.
- 6Q Limited advancement.
- 7Q Not sure.
- 8Q Nothing spectacular in a one-man office. Believe research offers most future promise.
- 9Q Have reached to top.
- R0 Less secretarial skills and more supervisory methods.
- R1 If a company like this one does expand and grow, there is a good future for me also. I am entitled to any commissions on equipment that I sell.
- R2 As the company grows, my position and salary will grow with it.
- R3 A good business education plus secretarial skills.

- R4 Learning the management part of a working team as well as the detail the secretary handles.
- R5 More women in executive positions, less supervision by men, more women working for women, more decision making by women, improved working relations between men and women.
- R6 Acting office manager to release others for other work.
- R7 Everything is becoming more automated. A need for keeping up with new methods is absolutely essential.
- R8 Increased responsibility and remuneration.
- R9 Could involve added responsibility from other areas of the office.
- OR This particular job has grown and will keep growing as the corporation becomes larger. The future will find the job even more engrossed in maintaining corporate records of board meetings, etc.
- 1R No answer.
- 2R Increased responsibility as company needs expand and more demands are made on my employer's time.
- 3R Administrative assistant.
- 4R Adaptability essential. Each man I have worked for in this particular position has been keenly interested in different things, each has had a totally different approach to the same job.
- 5R None.
- 6R No answer.
- 7R Should business for our company in the Houston Area increase and new personnel be added, my position would have added duties.
- 8R Maybe more managerial decisions.
- 9R More formal education will be required.
- S0 No drastic changes.
- S1 No advance, except an occasional salary increase.

- S2 No answer.
- S3 No answer.
- S4 If and when my office becomes fully automated, it is highly probable that the secretarial duties will be changed but never eliminated. The secretary will thus be freed to assume more of a managerial position, relieving her employer of many functions and problems.
- S5 None.
- S6 None.
- S7 The role of private secretary in a large corporation will become de-emphasized and more women will be required to work as secretary to an entire organizational unit. For that reason secretarial employees will have to be more flexible and will assume such positions as a matter of course.
- S8 Frankly, nothing until such time as women are advanced according to their capabilities in the same manner as men of similar ability--I'm not bitter, but I am realistic.
- S9 No answer.

SPA

- Z0 Highly increased emphasis on systems development. Specifically changing from reporting of past or present statistics to development of future business planning through statistical projections.
- Z1 Extensive changes due to overall growth of EDP and related automation of clerical jobs.
- Z2 More utilization of computers for all phases of record keeping.
- Z3 Future is in new challenges to reduce costs while efficiently performing the responsibilities of this department. New horizons as Works Accountant, Superintendent of an operating department are possible.
- Z4 No comment.

- Z5 Additional responsibility in corporate policy regarding methods of accomplishing administrative objectives.
- Z6 Transfer to other divisions in the corporation or financial analysis.
- Z7 Yes.
- Z8 More responsibility as the use of computer and systems techniques is increased.
- Z9 Unlimited growth except for the individuals lack of imagination or salesmanship.
- OZ Library systems analysis is a relatively new area of endeavor and has vast potential for persons with library systems interest or experience.
- 1Z Perfect training ground for executive talent - probable promotion to managerial status and then executive level.
- 2Z More responsibility.
- 3Z The function will grow in size and scope to cope with the growing need of industry for fast, accurate information systems.
- 4Z Opportunity for advancement within the systems field or in other areas of the business. Many specific changes will no doubt be brought about by rapid technological advancement in the computer field.
- 5Z Need more and more to understand management's viewpoint as management information systems, management sciences techniques, and other decision-making aids become more common.
- 6Z Unlimited future. No specific changes.
- 7Z Tremendous - much more demand than supply with no end in sight.
- 8Z Manager data processing.
- 9Z Administrative assistant's job; then chief of an area such as chief accountant.

- Y0 Administrative duties, more important; technical knowledge, less important.
- Y1 Systems and procedures is becoming recognized as a profession more and more and there seems to be a bigger demand for systems analysts.
- Y2 The systems and data processing area is a dynamic field one that is very difficult to stay abreast of all its changes - as a result the education and experience received in staying abreast keeps the future always bright as long as you have a forward thinking management to back you up.
- Y3 Constant growth - continuing.
- Y4 Systems - data processing to become central source of management information for instantaneous decision making.
- Y5 Good - we are now in the "era" of systems.
- Y6 Continued expansion and opportunity. None except keeping abreast of technology changes.
- Y7 No answer.
- Y8 Managerial.
- Y9 EDP is the most valuable "tool" the business world has and will become more valuable in the immediate future. Management must learn to accept and use this "tool" to the utmost. The future in this field is limited only by the individual's initiative.
- OY In order for any type of company to keep up with programs, they will have to have a strong methods and procedures staff to help them go forward. This type of organization will be the link between computers and accounting.
- 1Y No answer.
- 2Y Marked increase in "computerized systems." Much more sophistication in the field.
- 3Y Will continue to grow - greater demands for information with higher quality will become more technical due to advancement in computers and closer to business operations.

- 4Y There is a definite future for Management Systems Analysis in that they are the people who keep management informed as to better and more efficient ways of doing specific jobs, by doing them better and perhaps cheaper.

APPENDIX J

FISHER'S t -TEST RATIOS

TABLE XIII

FISHER'S t-TEST RATIOS FOR FIVE ORGANIZATIONS SHOWING
SIGNIFICANT DIFFERENCES

Duty No.	1*to2*	1*to3*	1*to4*	1*to5*	2*to3*	2*to4*	2*to5*	3*to4*	3*to5*	4*to5*
6	.91	.90	1.79	1.15	.29	.45	.02	1.07	.33	.59
7	.12	3.03**	1.17	3.00**	2.07**	1.00	2.00	4.69**	.15	4.88**
8	.44	1.39	3.50**	.59	1.57	2.15**	.00	5.27**	2.00**	2.73**
9	.39	2.12**	1.28	1.03	1.26	1.49	.42	3.89**	.92	2.45**
10	.91	3.34**	.06	3.33**	1.50	.98	1.60	3.65**	.50	3.48**
11	.72	3.00**	.88	2.15**	1.55	.10	.88	2.29**	.54	1.35
12	1.70	3.91**	3.58**	3.31**	.58	.75	.81	.50	.71	.18
13	2.10**	2.72**	3.58**	4.08**	.11	.57	.94	.94	1.47	.59
14	1.92	1.50	3.91**	2.67**	1.02	.82	.13	2.68**	1.47	.81
15	.95	1.09	1.93	2.11**	.15	2.67**	.73	3.46**	1.24	4.55
16	.34	.65	.86	1.63	.93	.32	1.67	1.81	1.16	2.75**
17	1.46	.58	.35	1.05	2.00**	1.31	2.25**	1.06	.54	1.47
18	.66	2.31**	6.10**	2.92**	1.14	4.30**	1.72	3.92**	.94	2.42**
19	.70	.88	6.79**	2.08**	.11	4.50**	.87	6.42**	1.42	4.00**
20	.85	1.85	8.03**	2.59**	.49	5.22**	1.12	6.14**	1.03	4.42**
21	.77	2.94**	4.15**	3.22**	1.40	2.37**	1.68	1.32	.58	.58
22	.73	.76	3.06**	.76	.20	1.53	.14	2.52**	.06	2.11**
23	.77	1.65	6.27**	2.68**	.51	4.21**	1.27	5.38**	1.18	3.22**
24	2.20**	2.39**	5.58**	2.82**	.57	1.85	.00	3.35**	.71	2.17**
25	1.02	2.29**	.38	1.32	3.03**	1.37	1.95	1.83	.58	1.03

1* Administrative Management Society
2* American Records Management Association
3* Data Processing Management Association

4* National Secretaries Association
5* Systems and Procedures Association

** Significant at .05 level or better.

TABLE XIII (Cont.)

FISHER'S t-TEST RATIOS FOR FIVE ORGANIZATIONS SHOWING
SIGNIFICANT DIFFERENCES

Duty No.	1*to2*	1*to3*	1*to4*	1*to5*	2*to3*	2*to4*	2*to5*	3*to4*	3*to5*	4*to5*
26	.24	2.46**	1.71	2.65**	2.38**	1.61	2.33**	.50	.79	1.00
27	.17	4.94**	1.35	5.03**	3.71**	1.35	3.53**	7.62**	.09	7.73**
28	.44	1.65	1.42	4.35**	.82	1.64	2.91**	3.45**	2.71**	6.62**
29	1.00	2.18**	.76	4.06**	.61	.48	1.98	1.55	1.88	3.29**
30	1.35	2.00**	.64	3.50**	.14	.95	1.33	1.52	1.61	3.09**
31	1.02	1.50	2.09**	1.42	.09	.56	.08	.65	.00	.59
32	.75	2.50**	2.14**	3.24**	1.12	.78	1.65	.33	1.00	1.14
33	1.14	.14	1.42	.13	1.59	2.81**	1.26	1.74	.00	1.38
34	1.20	2.26**	4.50**	1.00	.29	2.04**	.47	2.47	1.11	3.25
35	.85	1.58	2.09**	1.82	.29	.63	.55	.48	.41	.00
36	.00	1.29	3.03**	.79	1.05	2.47**	.62	1.92	2.27**	4.03**
37	.42	.72	.11	3.36**	1.07	.55	.73	.71	4.29**	3.00**
38	2.50**	.45	.64	.45	2.42**	2.24**	2.05**	.18	.00	.17
39	.23	1.03	.32	3.41**	.54	.51	2.26**	1.58	2.55**	4.31**
40	.45	2.27**	9.65**	2.90**	2.45**	7.39**	2.86**	16.32**	1.32	17.63**
41	2.59**	1.27	6.28**	2.56**	4.12**	1.53	5.10**	8.62**	1.55	10.35**
42	2.87**	1.42	4.68**	2.29**	4.97**	.31	5.16**	7.00**	1.23	7.21**
43	.00	.94	.78	1.42	.76	.61	1.06	.19	.56	.72
44	.79	.18	3.62**	.86	.76	1.89	1.53	3.81**	1.15	4.72**
45	.86	.33	.03	.14	.76	1.00	.80	.41	.18	.18

1* Administrative Management Society
 2* American Records Management Association
 3* Data Processing Management Association

4* National Secretaries Association
 5* Systems and Procedures Association

** Significant at .05 level or better.

TABLE XIII (Cont.)

FISHER'S t-TEST RATIOS FOR FIVE ORGANIZATIONS SHOWING
SIGNIFICANT DIFFERENCES

Duty No.	1*to2*	1*to3*	1*to4*	1*to5*	2*to3*	2*to4*	2*to5*	3*to4*	3*to5*	4*to5*
46	1.38	.88	2.82**	1.38	2.33**	.55	2.57**	4.15**	.67	4.64**
47	1.70	1.67	8.25**	1.07	3.48**	4.22**	2.47**	12.32**	.38	10.08**
48	1.93	7.62**	.00	10.54**	4.73**	3.00**	5.88**	10.05**	1.47	14.42**
49	.00	8.21**	.00	8.36**	5.63**	.00	5.40**	10.82**	.11	10.64**
50	.00	4.75**	.00	3.41**	3.68**	.00	2.23**	6.82**	2.00**	4.29**
51	1.05	5.38**	3.33**	6.39**	4.71**	.00	5.39**	8.45**	1.17	12.00**
52	2.39**	4.64**	.44	2.41**	1.54	3.74**	.38	6.09**	2.48**	3.35**
53	.65	1.00	.36	1.11	1.57	.46	1.50	1.68	.27	1.63
54	.49	4.70**	3.35**	5.74**	4.12**	2.29**	4.84**	8.83**	1.11	11.45**
55	2.92**	2.65**	1.18	3.59**	.95	2.55**	.02	1.95	1.13	2.79**
56	2.33**	.47	1.42	.17	2.29**	1.36	2.57**	1.13	.67	1.58
57	2.10**	.42	1.28	1.53	2.04**	1.36	3.60**	1.00	2.06**	2.97**
58	.41**	1.18	1.44	2.95**	1.43	.68	2.86**	3.13**	2.05**	5.09**
59	.00	2.85**	2.14**	1.94	2.39**	1.67	1.52	5.81**	.42	4.15**
60	1.06	2.82**	2.62**	1.55	4.31**	.89	2.51**	6.29**	.82	4.15**
61	1.71	.95	1.21	1.12	3.00**	.97	2.73**	2.55**	.42	2.46**
62	.20	.18	.66	2.25**	.36	.73	1.77	.54	2.46**	2.81**
63	1.30	1.13	5.06**	.76	2.55**	2.61**	1.93	7.65**	.23	5.88**
64	.32	.57	.68	.50	.11	.19	.72	.12	1.07	1.18

1* Administrative Management Society
 2* American Records Management Association
 3* Data Processing Management Association

4* National Secretaries Association
 5* Systems and Procedures Association

** Significant at .05 level or better.

TABLE XIV

FISHER'S t-TEST RATIOS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
SHOWING SIGNIFICANT DIFFERENCES

Duty No.	1*to2*	1*to3*	1*to4*	1*to5*	1*to6*	1*to7*	2*to3*	2*to4*	2*to5*	2*to6*	2*to7*
6	.16	.68	.09	.56	.45	.00	.63	.32	.51	.34	.23
7	.31	.33	.07	.51	.51	1.15	.00	.30	.26	.24	1.09
8	1.57	1.19	1.40	1.21	1.63	1.70	.62	.35	.58	.15	.02
9	.25	.67	.37	.52	.38	.25	1.19	.13	1.07	.16	.66
10	1.80	.43	.39	.88	.28	1.32	2.09**	1.94	1.53	2.77**	.77
11	1.35	.16	.77	.34	.08	.57	2.34**	.82	1.71	1.60	1.40
12	1.28	.42	1.08	.49	.72	.83	1.91	3.12**	1.71	2.61**	1.16
13	.61	1.55	1.00	.47	1.03	.00	2.86**	1.98	1.56	2.00	.88
14	.17	1.09	.80	.14	1.14	.25	1.64	1.24	.44	1.64	.55
15	.58	.73	.69	.95	.42	.29	.09	.12	.36	.21	.48
16	.96	.35	.61	.20	.55	1.37	.83	.45	1.17	.41	.44
17	2.91	.34	1.32	1.17	.61	1.25	3.06**	1.71	2.30**	2.47**	1.96
18	1.08	.19	.48	.36	.58	.97	1.54	.93	1.39	.68	.36
19	1.01	1.32	.06	.23	.19	.06	3.35**	1.24	1.94	1.05	1.38
20	.59	.31	.58	.13	.41	.40	1.31	.08	1.15	1.29	.38
21	1.32	.81	1.17	.67	.08	1.03	.90	.27	1.09	1.75	.49
22	.23	.10	1.59	.19	.07	.91	.20	1.62	.09	.19	.84
23	.45	.08	.85	.11	.51	.92	.54	.43	.53	.07	.48
24	.17	.58	.13	.08	.37	.38	.45	.38	.37	.23	.72
25	.84	1.55	.94	.00	1.02	.70	3.55**	.06	1.46	2.36**	.39

1* Mining

2* Construction

3* Manufacturing

4* Transportation and Public Utilities

5* Wholesale and Retail Trade

6* Finance, Insurance and Real Estate

7* Service and Miscellaneous

** Significant at .05 level or better.

TABLE XIV (Cont.)

FISHER'S t-TEST RATIOS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
SHOWING SIGNIFICANT DIFFERENCES

Duty No.	3*to4*	3*to5*	3*to6*	3*to7*	4*to5*	4*to6*	4*to7*	5*to6*	5*to7*	6*to7*
6	1.12	.22	.26	1.21	1.03	.72	.14	.10	1.00	.67
7	.38	.35	.28	1.55	.69	.57	1.59	.00	1.18	.91
8	.38	.12	.49	.91	.19	.21	.46	.45	.79	.20
9	1.54	.25	1.44	.76	1.46	.04	.90	1.33	.50	.89
10	.03	.79	.97	1.67	.15	.88	1.37	1.68	.85	2.16**
11	1.50	.90	.34	1.32	.82	.87	.46	.35	.38	.62
12	2.26**	.23	1.64	.91	2.18**	.78	2.63**	1.58	.63	2.00**
13	.58	1.84	.53	2.75**	.98	.02	1.62	.96	.84	1.57
14	.29	1.56	.31	1.35	1.08	.51	.81	1.50	.19	1.28
15	.05	.33	.34	.79	.25	.35	.68	.67	1.12	.26
16	.39	.30	.35	1.74	.74	.00	1.07	.66	2.14**	.96
17	1.48	1.33	.43	1.54	.45	.83	.19	.63	.25	.77
18	.50	.32	.69	1.53	.25	.20	.77	.46	1.24	.48
19	1.95	1.85	2.09**	2.28**	.46	.18	.00	.66	.51	.20
20	1.38	.33	.20	1.27	1.22	1.31	.33	.49	.95	1.17
21	.67	.21	1.21	.50	.90	1.63	.23	1.07	.69	1.52
22	2.23**	.17	.02	1.41	2.31**	1.87	1.02	.16	1.28	1.10
23	1.16	.05	.65	1.41	1.22	.37	.00	.67	1.35	.43
24	1.05	1.09	.17	1.65	.08	.66	.36	.70	.53	1.04
25	3.90**	2.21**	.27	3.54**	1.76	2.49**	.51	1.42	1.34	2.26**

1* Mining

2* Construction

3* Manufacturing

4* Transportation and Public Utilities

5* Wholesale and Retail Trade

6* Finance, Insurance, and Real Estate

7* Service and Miscellaneous

** Significant at .05 level or better.

TABLE XIV (Cont.)

FISHER'S t-TEST RATIOS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
SHOWING SIGNIFICANT DIFFERENCES

Duty No.	1*to2*	1*to3*	1*to4*	1*to5*	1*to6*	1*to7*	2*to3*	2*to4*	2*to5*	2*to6*	2*to7*
26	1.70	.45	.69	1.09	.21	1.43	2.50**	1.81	1.50	2.25**	.86
27	.04	.50	1.09	.05	.03	.03	.69	1.23	.13	.08	.10
28	.61	1.23	.26	.80	1.19	1.78	.74	.49	.20	.71	1.39
29	1.03	2.20**	2.11**	1.68	1.55	3.04**	1.34	1.25	.78	.58	2.29**
30	1.17	1.73	1.56	1.76	1.55	2.51**	.67	.48	.76	.47	1.61
31	.30	.08	.08	.15	.31	.66	.30	.45	.64	.71	1.22
32	2.78**	1.64	1.89	1.73	.71	1.73	2.19**	1.50	1.98	3.16**	2.10**
33	.77	.43	.10	.64	1.32	.91	.66	1.03	.42	.72	.05
34	.13	.12	.14	.31	.38	.19	.05	.00	.65	.31	.05
35	.71	.28	.39	.31	.72	.94	1.33	1.40	.60	.00	2.14**
36	.74	.04	.65	.30	.76	1.57	1.16	.19	.88	.02	.91
37	1.05	.91	.81	1.63	.74	1.57	.40	.39	.57	.41	.53
38	1.56	.18	.29	.88	.56	1.71	2.27**	1.70	.76	1.02	.53
39	2.95**	1.09	.02	.49	.12	.68	2.49**	3.80**	3.50	4.00**	3.21**
40	1.21	.11	.59	.81	.01	.60	1.62	.75	.68	1.51	1.02
41	.89	.58	.08	.15	.84	.03	2.06**	1.24	1.58	2.17**	1.31
42	.61	.22	.61	.21	.45	.10	.63	.02	.70	1.29	.77
43	1.18	.02	.28	.54	.10	.83	1.79	1.12	1.09	1.32	.58
44	1.35	.41	.60	1.05	.64	1.19	1.36	.98	.67	.83	.41
45	1.03	.70	.50	.38	.54	1.56	.63	.70	1.07	.62	.48

1* Mining

4* Transportation and Public Utilities

6* Finance, Insurance and Real Estate

2* Construction

5* Wholesale and Retail Trade

7* Service and Miscellaneous

3* Manufacturing

** Significant at .05 level or better.

TABLE XIV (Cont.)

FISHER'S t-TEST RATIOS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
SHOWING SIGNIFICANT DIFFERENCES

Duty No.	3*to4*	3*to5*	3*to6*	3*to7*	4*to5*	4*to6*	4*to7*	5*to6*	5*to7*	6*to7*
26	.46	1.38	.32	2.04**	.75	.72	1.24	1.35	.71	1.72
27	2.24**	.81	.63	.81	1.76	1.33	1.56	.02	.03	.00
28	1.45	.78	.09	.86	.87	1.33	2.24**	.74	1.64	.57
29	.07	.86	.72	1.19	.87	.70	.93	.07	2.06**	1.71
30	.16	.06	.13	1.28	.23	.02	1.20	.19	1.22	1.11
31	.24	.41	.58	1.31	.11	.30	.84	.29	.92	.44
32	.50	.39	1.52	.14	.18	1.81	.38	1.85	.25	1.64
33	.52	.38	1.68	.88	.89	1.84	1.23	1.50	.50	1.05
34	.06	.77	.49	.14	.76	.35	.05	1.15	.86	.36
35	.21	1.03	1.42	1.22	1.16	1.46	.78	.67	2.19**	2.28**
36	1.05	.48	1.22	2.94**	.72	.19	1.33	.92	2.53**	1.00
37	.05	1.35	.11	1.35	1.23	.06	1.12	1.19	.00	1.09
38	.16	1.50	.65	3.15**	1.15	.48	2.32**	.52	1.69	1.67
39	1.66	1.06	1.66	.84	.78	.12	1.00	.89	.29	1.11
40	.80	1.27	.17	.83	.26	.77	.13	1.20	.46	.83
41	.70	.73	.53	.95	.10	1.00	.09	1.16	.22	1.22
42	.67	.03	.98	.21	.76	1.37	.83	1.02	.18	.82
43	.47	.97	.18	1.53	.37	.22	.76	.61	.54	.96
44	.34	1.09	.42	1.36	.59	.10	.76	.44	.27	.59
45	.20	.55	.11	1.58	.27	.06	1.43	.32	2.06**	1.27

1* Mining

2* Construction

3* Manufacturing

4* Transportation and Public Utilities

5* Wholesale and Retail Trade

6* Finance, Insurance, and Real Estate

7* Service and Miscellaneous

** Significant at .05 level or better.

TABLE XIV (Cont.)

FISHER'S t-TEST RATIOS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
SHOWING SIGNIFICANT DIFFERENCES

Duty No.	1*to2*	1*to3*	1*to4*	1*to5*	1*to6*	1*to7*	2*to3*	2*to4*	2*to5*	2*to6*	2*to7*
46	2.16	.73	.80	.79	.75	.91	1.88	1.58	1.80	3.45**	1.64
47	.46	.34	.04	.37	.52	.02	1.14	.58	1.26	1.22	.74
48	.24	.62	.54	.44	.50	.45	.45	.96	.22	.31	.22
49	.79	1.38	.37	1.15	1.24	.94	.66	.63	.39	.54	.00
50	1.12	1.04	.89	1.22	1.21	1.16	.42	.15	.39	.27	.04
51	.74	.65	.50	.88	.61	.76	.27	.35	.00	.21	.09
52	.34	.12	.55	.55	.04	.38	.61	1.05	1.17	.35	.94
53	.02	.34	1.03	.34	.04	.10	.47	1.29	.50	.08	.10
54	.65	.54	.03	.56	.84	.85	.27	.83	.26	.22	.14
55	.04	.59	.23	.67	.38	.53	.69	.26	.85	.53	.72
56	1.44	1.37	2.05**	1.49	1.23	2.83**	.08	.89	.07	.11	1.67
57	1.59	.73	.67	1.32	.38	1.56	1.49	1.20	.67	1.56	.30
58	.43	.56	.74	.31	.18	1.27	1.36	.31	.27	.31	.88
59	2.52**	.50	.98	1.17	.60	2.22**	3.51**	2.07**	2.63**	2.60**	.64
60	1.78	.69	.95	.90	.06	1.41	1.95	1.13	1.76	2.32**	.83
61	2.19**	1.28	.86	1.13	.48	1.67	1.31	1.73	2.09**	2.38**	.77
62	2.53**	1.13	.91	1.51	1.26	2.13**	2.85**	2.39**	1.61	1.76	.25
63	2.27**	.70	.21	1.12	.13	1.34	2.43**	3.38**	1.83	2.74**	1.35
64	.44	.33	.25	.29	.44	.80	.15	.21	.26	1.08	.50

1* Mining

2* Construction

3* Manufacturing

4* Transportation and Public Utilities

5* Wholesale and Retail Trade

6* Finance, Insurance and Real Estate

7* Service and Miscellaneous

** Significant at .05 level or better.

TABLE XIV (Cont.)

FISHER'S t-TEST RATIOS FOR SEVEN STANDARD INDUSTRIAL CLASSIFICATIONS
SHOWING SIGNIFICANT DIFFERENCES

Duty No.	3*to4*	3*to5*	3*to6*	3*to7*	4*to5*	4*to6*	4*to7*	5*to6*	5*to7*	6*to7*
46	.21	.16	2.09**	.32	.08	2.04**	.05	2.32**	.15	2.33**
47	.57	.06	.35	.59	.67	.77	.09	.33	.61	.78
48	1.63	.36	.10	.33	1.50	1.35	1.41	.19	.03	.15
49	1.52	.42	.00	.97	1.32	1.28	.84	.34	.53	.75
50	.23	1.05	.77	.53	.64	.44	.15	.10	.64	.39
51	.16	.39	.02	.26	.53	.15	.36	.29	.13	.16
52	.79	.85	.23	.50	.12	.77	.41	.85	.36	.56
53	1.86	.04	.39	.79	1.89	1.34	1.38	.42	.77	.21
54	.73	.03	.57	.56	.84	1.12	1.19	.58	.53	.13
55	.42	.12	1.38	2.00	.59	.80	1.11	1.59	2.11**	.12
56	1.23	.03	.04	2.39**	1.39	1.02	.71	.07	2.50**	1.87
57	.05	1.11	.43	1.58	.93	.40	1.22	1.34	.46	1.58
58	2.02**	1.53	1.02	3.28**	.77	.69	.61	.15	1.62	1.40
59	.97	1.31	.22	3.55**	.08	.59	1.86	.81	2.32**	2.37**
60	.62	.41	.81	1.48	.32	1.20	.56	1.24	1.10	1.85
61	.68	.62	1.32	.72	.25	.65	1.22	1.04	1.42	1.83
62	.17	1.38	.46	2.93**	1.28	.50	2.26**	.61	1.58	1.64
63	1.30	.82	.76	1.29	2.05**	.41	2.24**	1.40	.44	1.67
64	.08	.11	.97	.90	.00	.81	.82	1.03	1.07	1.61

1* Mining

4* Transportation and Public Utilities

6* Finance, Insurance, and Real Estate

2* Construction

5* Wholesale and Retail Trade

7* Service and Miscellaneous

3* Manufacturing

** Significant at .05 level or better