A SCIENTIFIC METHOD OF WORK DISTRIBUTION ANALYSIS

APPROVED:

C. L. Littlefield
Major Professor.

Martin A. Kossy
Minor Professor

O. J. Curry
Dean of the School of Business Administration

Dean of the Graduate School
A SCIENTIFIC METHOD OF WORK DISTRIBUTION ANALYSIS

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Bobby Max Simpson, B. B. A.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The need for office efficiency is now of paramount importance. Great strides have been made in factory production methods and procedures during the first half of the twentieth century. But to the present, application of scientific management to the solution of office problems has been much slower.

One promising tool of analysis that has acquired some attention in the field of scientific office management, however, is the work distribution chart. Essentially, the purpose of the work distribution chart is to provide a simple, compact, graphic, answer to the fundamental question, "Who does What."\(^1\)

A preliminary understanding of the nature of the work distribution chart, and the processes necessary to prepare such a chart may be seen by referring to Figure 1.

The work distribution chart is a record of work accomplished in an office. The usual method of recording the information is for the worker to record his work each week and the time required in doing these tasks. These tasks are

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<td>Confer with pen office</td>
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<td>Conferences</td>
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<td></td>
<td></td>
<td>Prepare Budget</td>
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<td>WAR EFFORT AND</td>
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<td>19</td>
<td>Analyzing operating report of</td>
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Fig. 1.—Work Distribution Chart

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<tr>
<td>Signing acknowledgements</td>
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<td>Proofreading acknowledgements</td>
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<tr>
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<td>Sorting old files</td>
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<tr>
<td>Keeping phone directory</td>
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Fig. 1.--Continued
then grouped with similar ones in order to fit all work into
certain broad classifications of activities. These activities
are found in the first column on the left in the chart shown
in Figure 1.

With this chart it is then possible to look critically
at the existing distribution of work assignments to the indi-
viduals within a department. By itself the chart furnishes
no ready solution to the problem of what would constitute the
best distribution of these work assignments. But an analyst
or supervisor can study the existing arrangement and can do
a far more effective job of grouping duties logically, reducing
duplication of effort, and making other similar improvements
that would not be possible through mere reliance upon obser-
vation and memory.

The use of work distribution analysis in office work has
been limited. Some large organizations with efficient methods
departments have used this type of analysis to good advantage.
Smaller organizations have made little use of the approach,
even though it is applicable to all office type units regard-
less of size. Perhaps one reason for the neglect of work dis-
tribution analysis is the fact that capable analysts are not
available with sufficient training in its use. One writer
suggests that the reason for its neglect is the fact that work
distribution analysis has a very limited value when applied to
the factory, with the result that little help has been avail-
able from that source.\(^3\) Whatever the explanation, analysts who

\(^3\)Hume, op. cit., p. 27.
have made use of the technique in offices report highly worthwhile results.

Published accounts of individual company experiences with work distribution analysis indicate a rather wide variation in approaches to the problem. Especially is this true in the phase of gathering the data. The analysis sometimes is based upon rather flimsy and questionable evidence on tasks performed. Interpretation of results often seems to be based merely upon a few surface impressions. Questions of who should participate in the analysis and in what manner also are not given the attention that their importance would seem to justify. These and other shortcomings suggest that there is need for research to provide a sounder basis for this potentially—powerful tool of management analysis. Accordingly, this investigation will be an attempt at meeting that need.

The problem which the investigator would undertake is a fourfold; one and it logically develops into the following parts:

1. To record the opinions and views of the standard authorities on the subject of work distribution analysis, and to work out a synthesis of these views.

2. To relate work distribution analysis to management analysis of other types such as organizational analysis, work measurement, methods improvement, procedural analysis, and control instruments.

3. To survey current problems and practices regarding work distribution analysis in a select group of large, progressive organizations.
4. To work out a model approach to work distribution analysis in an actual situation, based upon conclusions drawn from the above steps.

Sources of Data

The sources of information for this investigation are primarily library sources. The treatment of introductory material and related subjects was drawn generally from standard sources in the field of business administration and more specifically from sources on the subjects of Office Management and Procedures.

Most of the information on work distribution analysis was found in current periodicals in the field of office management, but some material was also found in text books on the subject.

Material was obtained directly from certain leading firms in the United States and Canada concerning the extent of use and the problems confronted in their attempts to use work distribution analysis. A questionnaire was used to obtain this information. In the choice of these firms it was necessary to select firms large enough to justify the existence of a methods department or its equivalent in order to be confident that work distribution analysis had been applied to the offices in their organization.

The final source of material was used in developing a model approach to a work distribution analysis problem. The general background information for this problem was found in the previous sections relating to procedures and problems of
work distribution analysis. Information on the task lists and duties of the hypothetical department was found in office management texts and handbooks. Since processes and procedures in this department were purely hypothetical they were based upon knowledge of practices and procedures indicated in these textbooks.

Definition of Terms

In order to achieve consistency of interpretation, it was thought necessary to define certain terms important in this study. The terms and their definitions as used in this study are:

Office Management is the planning, organizing, and controlling of office activities wherever found and by whomsoever performed.

An analyst is a person who works in a staff capacity in directing and charting the work distribution analysis and applying the results to the separate activities.

A supervisor is a person who directs the work of the individual workers and to whom the workers are immediately accountable.

A work distribution chart is a columnar record which reveals the major activities of an organizational unit and the contribution of each individual to each function performed by the group.¹

Work distribution analysis is the technique of charting and interpreting work distribution, with a view to achieving increased efficiency and lower costs in office activities.

Organization of the Study

An overview of the entire study is presented in the first chapter of the study. Chapter II presents a general picture of the great need for office efficiency. The increased number of employees and the increased costs of office work are emphasized. The chapter is concluded by showing how good organizational analysis at all levels can help to meet this need.

Chapter III is a synthesis of published data on work distribution analysis showing what the various authorities say about definitions, purposes, and procedures or steps involved in work distribution analysis. The weaknesses of current methods of analysts are mentioned in the final section of this chapter.

The purpose of Chapter IV is to synthesize existing information pertaining to obtaining basic information on tasks for the work distribution chart. This includes an analysis of weaknesses in present authoritative opinion regarding the particular problems of sources of information for work distribution analysis. Some special attention is given here to studying supplementary sources which may be adapted as sources for work distribution charting. Finally, Chapter IV includes a discussion of the activity classification used in the work
distribution chart. Supplementary sources which might be used in determining this classification are also discussed.

Chapter V is concerned with charting, analyzing and installation of improvements that are possible in work distribution analysis. Again the method of presentation is by synthesizing the information of authorities on the subject.

The purpose of Chapter VI is to show practices of certain leading companies who have used work distribution analysis and indicate how they have solved the problems involved in its use. This information was gathered from a questionnaire mailed to thirty leading organizations. This questionnaire is shown in the appendix of this study.

The purpose of Chapter VII is to indicate a model approach to work distribution analysis, by developing a hypothetical problem that might be found in an average organization. Conclusions will be reached based upon the information found in the syntheses of Chapters III, IV, and V and the results of the questionnaire indicated in Chapter VI. This chapter will also serve as the conclusion of the study.
CHAPTER II

THE INCREASED IMPORTANCE OF BETTER OFFICE ORGANIZATION

The Increased Number of Office Workers

One very important reason for a scientific study of work distribution analysis is the need to reduce office costs by a better utilization of clerical employees. These employees neither produce nor sell their companies' products, but the service they render is one of increasing importance.

In 1870 there were only 70,000 clerical workers in the United States. By 1890 there were 200,000 clerks and by the year 1930 the number had risen to a total of 4,000,000. But in 1948 there were an estimated 8,500,000.¹ This figure represents 15 per cent of the total working force in the United States, or as one authority points out, the clerical working force represents four times as many workers as in the entire textile industry, and 60 per cent more than the number of productive workers in the great metals industry.²

¹ James F. Foley, "Making Efficiency Pay," Office Executive, XXVI (April, 1951), 7. Department of the Census figures for the year 1950 are not available at this time. However, it is believed by most authorities that the total figures for office workers will be much higher.

From 1900 to 1940 the total number of office workers rose 365 per cent in contrast to an increase of only 75 per cent in factory workers.\(^3\)

The causes of the increase in office workers are many. The increase in the number of businesses and the growing size and complexity of the businesses are important contributors to the increase in office workers. Industry is now required to keep many more records than formerly. This partly is due to inside forces and partly due to outside reasons.

The inside forces center about the fact that industry must depend upon facts and records. This is partially due to their attempts to maintain their competitive position through the use of controls found to a great extent within the company itself. Also, it must be remembered that increased specialization has increased the vast number of records and other paper work of the office. The production department must be supported by a number of specialists in the purchasing department, the personnel department, the accounting department and many other areas. Office work makes up the bulk of all of these functions, serving them and facilitating their objectives.

The outside reasons are dictated by competitive conditions and government regulations. Especially in the field of accounting has this proven important. Government regulations have imposed strict accounting systems in the fields of taxation and price controls. Each business from the small corner grocery to the large corporation is required to keep this information.

Many progressive companies have realized the savings that can be effected by reduced clerical staffs, but many others have not yet attempted any effective control over clerical expense.

Increase in Clerical Costs

One other important reason for increasing office efficiency is the staggering costs of office activities during recent years. Clerical costs reflect directly on a company's profits and the elimination or reduction of these costs can contribute toward greater efficiency and more productivity.

One authority estimates that correspondence alone costs industry over $3,000,000,000 per year. This activity represents approximately one third of the total office work in the United States.\(^4\)

Some individuals recommend that office activities could be run on the same basis as the factory. This is impossible for a number of reasons. Much office work is difficult to measure and some phases are impossible to measure. Office work involves many different types of activities, and cases handled are seldom exactly like previous ones. Finally, office work does not deal with tangible raw materials or definite finished products. Nevertheless, certain things may be undertaken in the office to reduce the costs of clerical help and the costs of office work.

\(^4\)George R. Terry, Office Management and Control, p. 362.
The problems of office personnel utilization, and office costs are being met with considerable success in many progressive organizations. Among the more successful techniques employed thus far have been those of work simplification, which broadly defined includes procedural and methods analysis, forms design, layout planning and other approaches to achieving higher efficiency in performance.

It may be observed that these techniques deal, for the most part, with processes involved in getting work accomplished. A second group of techniques of analysis which have received much less attention are those dealing with organizational analysis. It is with a relatively new tool in the latter category that this is primarily concerned—that of work distribution analysis.

The Importance of Good Organizational Analysis at All Levels

The purpose of this section is to relate work distribution analysis to general organizational analysis, especially at the job level. While there has been much literature on general organizational analysis at the department level, there has been little attention to organizational problems at the job level.

Organization is essential in small as well as large enterprises. Without organization it is impossible to

\[4\text{William H. Newman, Administrative Action, p. 123.}\]
achieve the goals of management. After management has defined and clearly stated these goals, functions necessary to attainment of objectives must then be determined. These functions are the major activities assigned to some person or group of persons. The granting of these functions is called delegation. W. H. Newman in his book, Administrative Action, states the following:

The operating and administrative activities must be partitioned off into bundles of duties that can be assigned to specific individuals, and relationships must be established between these individuals to assure that their efforts are coordinated toward a basic objective. In other words, the team must be organized.\(^5\)

This assignment of duties also applies to the delegation of responsibility at the working level. Just as certain functions are assigned to certain departments within an organization, certain duties are delegated to individuals within the working organization. Each department will have its own objectives to carry out. This must be done efficiently and effectively. Departmental sub-functions, then become the duties of the individual job.

Work distribution analysis is a form of organizational analysis in that it determines who, at the job level, is performing functions assigned to carry out the goals or objectives set by management.

The following questions are typical of those which an analyst may ask and answer intelligently with the aid of work distribution analysis at the job level: How should duties be

\(^5\text{Ibid.}, \text{p. 124.}\)
combined together into jobs to promote the most effective results? This question implies that management cannot and does not always have the answer to this question of grouping of duties at the working level, and certainly they do not. How much time is being spent on the various activities? What work is being accomplished? How may the skills of certain people be adequately utilized?

The technique of work distribution analysis within departments, properly organized and related to general organizational analysis, can show simply and effectively where efforts should be applied in these fields. It can aid the analyst in reducing clerical costs. It provides a clear and readable blueprint of all of the activities and the exact contribution of each employee to each activity. Further, it contributes toward analysis that will eliminate misdirected effort, duplication, low productivity, inadequate control, complacency and excessive clerical costs.

Responsibility for Organizational Analysis
At the Working Level

The nature and the importance of careful organizational analysis make necessary a careful answer to the question, "Who should do this type of analysis?" Top management itself is responsible for determining objectives, principal functions and major organizational groupings, but it may call on other groups for assistance. These groups are the consultant, the internal methods staff, and the working supervisor.
The outside consultant.—Some firms consider the employment of an outside consultant in organizational analysis. These firms believe that professionally-trained trouble finders can do more to straighten out the difficult problems arising in all levels of the organization.

There is something to be said for the use of these outside consultants. They usually have fresh viewpoints, and as one author points out, "There are a great many 'Sacred Cows' that people in an organization can't do much about—a lot of things that just can't be handled by the people who have to go on living with other people in the same organization."\(^6\)

However, the outside consultant is not near to the working level in an organization. He does not have personal contact with the supervisor, the worker, or even the methods department. The consultants are usually very expensive and not all problems will stand the cost of outside services.\(^7\)

The internal methods staff. Still another important source to be used in correcting the faults of poor organizational groupings at the working level, is the internal methods department. This staff can devote full time study to the problems and they are able to get an over-all picture of the department under consideration. These analysts will be company minded, not departmentally minded. Still another important advantage is that continuity of effort, as staff cooperation can better be secured and work interruption and staff irritations avoided.


\(^7\) Ibid., p. 519.
One serious disadvantage of the internal methods department doing organizational analysis at the working level is the fact that the department is too far away from the workers to secure their complete cooperation. Also, many employees and supervisors will distrust the methods staff, because it is felt that they are interfering with the worker.

However, the methods staff can do a great deal of good when the organizational work is between departments. They can also train workers and supervisors in the methods most effective within departments and can assist with particularly troublesome problems at that level.

The working supervisor.—A great deal of emphasis is now being placed on the use of the working supervisor to do organizational analysis at the working level. It is believed that since he is the person nearest the workers he is the logical person to see the errors and faults of the system. The methods department or some other qualified department trains the supervisor in such efforts as work distribution analysis and work simplification. This makes the supervisor more cooperative and gives backing to his authority over his department.

The supervisor can play an important part in work distribution analysis in that he can explain to his workers how work distribution charting and analysis is accomplished and the benefits of the program. The workers will also be more inclined to accept any changes, if they come from their immediate supervisor than if the changes come from a higher authority.

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8Herbert E. Green, "Let's Have Less Experting," Office Executive, XXVI. (June, 1951), 13.
It will be pointed out in subsequent chapters where the supervisor can play an important part in the various phases and steps of work distribution analysis. The supervisor who has been trained in the use of the work distribution chart has certainly taken the first step in better utilization of his personnel because he knows what they are capable of doing, to a certain extent, and to a greater extent what they have been doing.
CHAPTER III

THE WORK DISTRIBUTION CHART

The purpose of this chapter is to analyze authoritative articles and other published material written directly about work distribution analysis, and to point out areas of agreement or disagreement on the definitions, purposes, and procedures of work distribution analysis.

Mention will be made where the articles agree on work distribution analysis, as it is felt that these points can be used as guideposts in a person's attempting this type of analysis. Where the authorities disagree, either concerning the purposes or procedures of work distribution analysis, an attempt will be made to weigh each opinion impartially and work out, whenever possible, the best definition or procedure.

The last section of this chapter emphasizes the weaknesses of current practices of work distribution analysts. These areas of needed improvements will then be discussed in succeeding chapters. Conclusions reached there will aid in developing a model approach which could be applicable in any organization desiring to use work distribution analysis.

Definitions of Work Distribution Analysis

The following definitions are presented to show what work distribution analysis is. By showing definitions on the
subject, it is hoped that it will assist the user to better determine the purposes of work distribution analysis and to aid him in securing the benefits of such a program.

George Terry, in his book *Office Management and Control*, defines work distribution charting as follows: "This is basically a spread sheet which shows for a given period—usually a week, the type of work and the time spent on each job by each employee in the office unit under review."\(^1\)

Herrmann, cites the following definition: "The work distribution chart is a summarizing sheet containing information taken from an activity list and a task list of employee duties."\(^2\)

Another authority indicates the nature and the purpose of work distribution charting as, "Allowing you to see at a glance what is going on in your department, where your staff is spending their time and where they spend your money."\(^3\)

Barnum's article on work distribution analysis defines it in the following manner: "A work distribution chart is a columnar record which reveals the major activities of an organizational unit and the contribution of each individual to each function performed by the group."\(^4\)

\(^1\) George R. Terry, *Office Management and Control*, p. 634.


Another well known authority defines work distribution analysis in the following manner: "It is a simple tabulation of the various tasks performed by the several employees of an organization unit classified according to a listing of the major activities of that unit."  

Hume's definition differs only slightly from the others when he describes the chart as, "a fundamental tool of work simplification and a valuable device in connection with office work simplification."  

The final definition is by Coleman L. Maze in his book, Office Management:

The work distribution chart is a device for showing the division of labor at the lowest level, that is, the working employee. It is a spreadsheet filled out by supervisors and employees, which provides a compact and coordinated resume of the work accomplished by each employee and the approximate time spent by each employee on each of his assigned duties.

These authorities thus have stated that the work distribution chart is a device, a tool, a summarizing sheet, a columnar record and a tabulation. It is all of these things. As a tool it measures the work that is being accomplished and it shows who is presently doing that work. As a spreadsheet and columnar record the work distribution chart summarizes all of the information gathered, in a concise and compact form.

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5 Public Administration Service, Work Simplification, p. 2.


7 Coleman L. Maze, Office Management, p. 530.
all in one place. As a tabulation it shows the total time expended on each task and activity and the contributory time of each employee.

The adjectives of "simple" and "Fundamental" as included in the above definition are important because they give a clue to the fact that work distribution analysis is something that can be done in the smallest of offices and by relatively untrained personnel. This does not mean that a person, untrained and unfamiliar with work distribution analysis could handle it as effectively as the skilled and trained analyst. It does imply that anyone who desires to know the use and value of the device can be taught in a very short while how to use it.

The definitions further show the usual length of time covered by the chart — a week. More will be said concerning this at a later time, in the discussion of the task list. For the present it could be said that the week ordinarily appears to be the best length of time to use, as the employee tends to perform the complete work cycle in that length of time.

Further discussions of points in the definitions will be presented in the next section, which deals with the purposes of work distribution analysis.

The Purposes of Work Distribution Analysis

In the previous section it was determined what work distribution is. The purpose of this section is to determine
what work distribution analysis can do. The method of presentation will again be to quote authoritative sources and then compare what the authorities say on the various purposes of work distribution analysis.

Barnum divides the purposes of work distribution analysis into four sections. These purposes as he lists them are documentary, major activities record, analysis and improvements. He explains these purposes in the following manner:

Documentary—The primary purpose of work distribution charting is to make an orderly record of the work being performed.

Major Activities Record—The second purpose is to find out what the major activities are so that they may be subsequently analyzed and subjected to searching questioning in order that they may be improved.

Analysis—The third purpose of work distribution analysis is to provide the factual data required for conducting a preliminary analysis at the job level.

Improvements — The fourth and most important purpose of the work distribution chart is to record facts in such a way as to facilitate the development of improvements.

Herrmann suggests the following purposes of work distribution charting: "There are occasions when the over-all work activity of an entire department, section, group or unit must be summarized for the purpose of determining whether or not there is a proper balance of work."9

Another author on the subject has the following purposes in his explanation:

In addition it shows the work operations performed by each employee and the approximate time spent by each

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8Barnum, op. cit., p. 451. 9Herrmann, op. cit. p. 133.
employee on each of his assigned duties. After a work
distribution chart has been fully analyzed it should
be possible for the supervisor to prepare a tentative
program that will include: (1) Procedures on which
process charts are to be prepared. (2) Key employees
either in points of service, authority or importance.
(3) Necessity for additional data on the organizational
set-up. (4) Forms that are to be particularly studied. 10

Neuschel adds still more purposes to the list with the
following:

Properly prepared the work distribution chart can
be one of the analyst's most useful and versatile tools.
It assists him in determining where his efforts should
be applied. That is, it focuses his attention on the
more important parts of the routine and thus helps him
avoid the mistake of spending too much time trying to
improve a minor activity. It is equally valuable in
bring to light many contributory or auxiliary activi-
ties and special or irregular jobs which workers might
otherwise forget to mention when flow charts are being
drafted. In this way it serves as a guide to the prepa-
ration of procedure charts, and a further means of check-
ing their completeness. Finally, the work distribution
chart plays an important part in the analysis phases
of procedures research. It highlights weaknesses in
the division of labor and helps in the evaluation of
savings resulting from procedure improvements. By hav-
ing a record of the time spent on each task, an analyst
is less likely to be drawn into controversy over the
effect of work elimination on man power requirements. 11

Hume states the purposes briefly but completely as:

Essentially the purpose of a work distribution
chart is to provide a simple compact, graphic answer
to the fundamental question, "Who does What?" As such,
it serves as an excellent starting point for analyzing
the activities of an office or a section of an office.
The review of such a chart will assist a competent
analyst to ask enlightened and penetrating questions.
Even more important, it encourages the clerical super-
visor to develop a productive curiosity concerning his
own section. 12

10 Maze, op. cit., p. 531.
11 Richard F. Neuschel, Streamlining Business Procedures,
p. 155.
12 Hume, op. cit.
A final purpose is that by Morris:

It helps you to eliminate unnecessary tasks, to reduce time spent on unimportant activities and to avoid duplication or overlapping. It helps you to improve the flexibility of your staff, to better balance workloads in your department and to combine related tasks. It helps you to save make-ready and put-away by batching or grouping work and to better estimate personnel needs. You can see whether time and staff are required elsewhere. Work distribution charting is a great asset to supervisors to allocate deadline dates, when you have a plan in front of you will have something tangible to work from, you can spread out those monotonous jobs so that no one person is burdened with all of them. You can delegate tasks requiring skill to skilled operators and through this you get efficient work resulting in increased productivity, reduction in fatigue and no one works any harder.13

The purposes of work distribution analysis and the gains that can be accrued from its use and development thus appear to be many. The authorities do not believe work distribution analysis to be by any means the answer to all problems in organizational analysis. However, it can accomplish certain important purposes that supervisors have been quite lax in developing.

Careful study of the above named purposes of work distribution analysis indicates that they seem to group themselves into certain classifications. These important groups are the following:

1. To insure that activities presently being performed are necessary, and that the time required to perform them is reasonable.

(2) To insure that assignments of tasks to individuals are justifiable.

(3) To point the way to more complete and more searching improvement programs of various special types.

Each of these broad purposes will now be considered briefly.

(1) To insure that activities presently being performed are necessary, and that the time required to perform each activity is reasonable.—If this were the only purpose to be gained from work distribution analysis it would be important enough to warrant an undertaking of such a program. There are doubtless many supervisors who would be unable to bring forth this important information if asked to do so.

The work distribution chart records the work being done and places this work into categories or activities with the time required for each activity. Consequently, it is readily possible to determine the activities that require the most time and those requiring the least time. Contributory and auxiliary tasks are also pointed out and the time required for each is shown. The most important aspects of jobs are also shown, as are the minor aspects. Each task is arranged inside of its appropriate activity, enabling the analyst to determine the classes of work that make up each job.

(2) To insure that assignments of tasks to individuals are justifiable.—The work distribution chart shows who is doing the major and minor activities of a job. This, is in
turn valuable in determining who are the key people and who are the skilled personnel. The supervisor can determine how much time each employee is devoting to the activities and the total time the employee is busy. By knowing these important relationships it is easier to determine personnel requirements.

Still another important reason for knowing who is performing the individual tasks is to better determine the division of labor within a working unit. With a blueprint of who is performing each phase of work the supervisor can more easily correct duplication and overlapping by combining related tasks. The supervisor can switch personnel in case of over- or under-specialization. This can improve flexibility of staff and can better balance the workload, making it possible to allocate deadlines and spread monotonous tasks.

(3) To point the way to more complete and more searching improvements and programs of various special types. This perhaps can yield more important results than any other. Since work distribution analysis is likely to be a first step in a broad program of analysis, it can accomplish a great deal in getting a supervisor in the proper attitude or frame of mind to ask questions and develop his curiosity. It also can equip the first line supervisor with a tool that he before did not have. By knowing the most important activities, he can now improve them and leave the minor ones alone.

Future analysis can be in such important fields as the development of procedure analysis, method improvement, job
evaluation and job descriptions, organizational analysis and forms standardization. The analytical phase of work distribution analysis will be discussed in more detail in Chapter V.

Work distribution charting can aid in the development of improvements. The facts have been recorded in such a manner that improvements can be facilitated and put into action. The supervisor can compare the previous activity with a proposed one and evaluate the two in such a way as to determine dollars and cents savings. This leads to increased efficiency and productivity, the ultimate desires and goals of all scientific office management.

Procedures of Work Distribution Analysis

The following discussion is based upon authoritative opinions in published material concerning the steps in the preparation of the work distribution chart. It should be noted that these are the usual steps in preparation of the chart, but, improvements are of course possible. These improvements will be noted and considered in the more intensive analysis in later chapters.

The first authority, Barnum, indicates the following steps in preparation of the work distribution chart:

Task List—The first step in the preparation of a task list for each individual in the organizational unit showing each separate duty and the number of hours per week spent on each.

Activity List—The next step in the preparation of the work distribution chart is to prepare an activity list. This is merely a record of all the major work performed by the organizational unit in question.
Chart Construction—The third step in the preparation of the work distribution chart is to copy the activity list in the chart, listing each activity in the order of its importance, and then post the task list to the chart, classifying each duty as being part of one of the activities mentioned.

Analysis—The fourth step in the development of the work distribution chart is to conduct a searching analysis of each point which appears on the page.

Recommendations—After the chart has been analyzed, the next step is to develop recommendations which will effect improvements wherever the possibility of improvements suggests itself.

Installation—The development of recommendations is not enough. Recommendations must be sold, and to do this they must be properly presented.

Other analysis—The final step is to go over each activity and indicate what, if any, further study is recommended, such as "Process Charting," "Micromotion Analysis," etc.14

Another authority indicates the following steps in preparation of the work distribution chart:

(1) The analyst instructs the supervisor on the purpose and preparation of a work distribution chart.
(2) The supervisor guides each employee in the preparation of the task list.
(3) The supervisor prepares an activity list for his section.
(4) Using the task list and the activity list the supervisor prepares a work distribution chart for his section.
(5) The analyst reviews the chart with the supervisor and helps him to interpret it.
(6) Other steps in the work simplification program are then taken.15

Nueschel lists the following as steps in the preparation of the work distribution chart:

The major functions or activities of the unit are listed in the left column of the chart. Names and job titles of employees are spread across the top of the sheet in separate column headings, (where two are more people perform identical tasks, their names are grouped in a single column). An important additional feature is the recording of time spent by the individual employee on each task and by the unit as a whole on each function.16

16 Nueschel, op. cit., p. 155.
The steps of preparation vary only a little as expressed by Herrmann in the following:

1. Activities are recorded in the left column in order of decreasing importance.
2. Employees names, job titles, are recorded in the headings of the other columns in order of decreasing importance of responsibility.
3. Tasks for each employee and the estimated hours devoted to each task are recorded in a vertical column for each employee and in a horizontal row for each activity.
4. The estimated hours are totaled vertically by employee and horizontally by activity to complete the summarization.17

Each step of work distribution analysis, as outlined by the authorities varies only a little. Since the authorities differ so little in their presentation it is necessary only to summarize briefly their presentation. These steps as presented by the authorities are the following:

The first step in work distribution analysis is the instruction stage. This involves the analyst instructing the supervisor on the steps and methods of work distribution analysis, and the supervisor instructing the employees on the purposes and methods of preparing their task lists.

The second step is the preparation of the task list and the securing of the basic information. This may be secured by observing the employee for a short length of time, or as is the usual method, just asking the employee to record his own time as nearly as possible.

The third step is for the supervisor or the analyst to determine the basic activities or classification of functions

17Herrmann, op. cit., p. 133.
performed. These should be based upon the judgement of the analyst or supervisor or both or, if possible, be drawn from supplementary sources.

The fourth step is the preparation of the work distribution chart by the supervisor. This involves copying the information from the task lists and the activity list, distributing tasks by activities, and adding each column horizontally and vertically.

The fifth step is that of analyzing the work distribution chart. Here, the analyst and the supervisor alike must contribute their knowledge and information toward securing the most complete and profitable information available. New improvements and processes should be carefully noted and decided upon.

The final step is that of deciding upon improvements and putting them into practice whenever possible. Some difficulties probably will be met by the analyst and supervisor, as both should be better prepared for these by having a good view of all of the problems and information available.

Weaknesses of Traditional Methods in Work Distribution Analysis

Certain aspects of work distribution analysis appear to justify more careful study and analysis in order to clarify lack of agreement and improper handling of the published material. Each of the steps presented in the preceding section appear to have some weakness in their usual method of presentation. These weaknesses are presented in the following
discussion to better understand the problems that confront the work distribution analyst.

In the first step, that of preparing and instructing the supervisor and workers, little or no attention has been given by the authorities as to where the responsibility for this instruction should lay. This lack of uniformity would appear to arise from the fact that no two organizations would handle the same problem in the same manner. Nevertheless, certain types of problems would tend to be settled by the person or persons most capable of making necessary decisions. This lack of uniformity not only seems to present itself in the first step but also in each of the other phases of work distribution analysis.

Another seemingly important weakness that might arise in the very beginning of such a program, not given the attention that it warrants, is the problem of proper handling of the relations between supervisor and analyst and the supervisor and worker. The success of the program lies in the cooperation of all persons engaged in the program. Without enthusiastic co-operation the improvements possible in the program will be minimized.

One weakness of the traditional methods of gathering the basic information for the work distribution chart is the dependence on the task list submitted by the employee as being factual and accurate data as a basis for the chart. The inaccuracy and possible negligent handling of the task list
makes its sole use highly unreliable, unless it can be carefully checked with some secondary source of information such as job descriptions, procedure analysis, or office standards and control devices.

The activity classification also appears to need other treatment than given by some of the authorities. Many times this classification is prepared by merely fitting each of the employee tasks into a classification of activities with little thought of continuity or suitability. Other sources should be used for this classification, whenever available. These include, organizational charts and manuals, functional charts, and possibly job analysis and job descriptions.

Another weakness of current methods of presentation is in the selection of a standard work-week. Work load varies in an office and tends to occur in a cycle, usually on a monthly basis. The entire work cycle many times can be expressed as an average to best exemplify the average week to be used in the construction of the chart. However, the decision is difficult and no one method of determining this work-week has been determined by the authorities.

The final weakness of the usual method of approach is that of analyzing and interpreting the information after it has been charted. There is no one orderly method of interpreting the charted information and there is no assurance that the questions asked cover all of the major questions and major possibilities for improvement. Some authorities
cover all of the major questions but do not present an orderly method of asking the questions to best achieve results. One final weakness in the method of current authorities is that no best method of presenting the improvements and recommendations of the analyst has been given.

The weaknesses in the usual method of approach will be considered in the following chapters. Possible improvements appear to be many and these improvements will be presented in each step of the procedure.
CHAPTER IV

BASIC INFORMATION ON TASKS AND THE
ACTIVITY CLASSIFICATION

The purpose of Chapter IV is to analyze authoritative
articles and material written directly about work distribu-
tion analysis and to point out where these authorities
agree or disagree on the sources of basic information in
work distribution analysis.

The method of presentation will again be to synthesize
articles and information in the text books concerning these
sources. Where the authorities disagree either in method
or form an attempt will be made to weigh each opinion im-
partially and work out the best method or form. If agree-
ment on certain points cannot be reached, alternative efforts
will be suggested.

Of particular concern in this chapter will be certain
secondary sources which are commonly overlooked, and which
might be employed in work distribution analysis. These
secondary sources often may be available and may serve either
as a check on the primary or usual method of gathering mat-
erial, or as alternative sources which may be more satisfac-
tory than the usual source.
Task Lists Secured From Employees

The source of information apparently depended upon in the great majority of cases is that of the employees themselves. So useful and so widely used is this source that certain principal aspects of its use will now be considered. These deal with the preparation of task lists by, or with employees; review of task lists by supervisors and analysts; and limitations inherent in the task list approach.

Preparation of task lists.—Hume indicates the degree of dependence upon employees which this approach involves, in the following manner:

This list comes from the employees themselves. Each employee of the group furnishes an itemized statement of the tasks he performs and the estimated number of hours spent on each task as obtained from averaging on a daily basis.1

Herrmann suggests close cooperation between supervisor and employees in task list preparation, in his recommendation of procedure:

Each employee prepares a list showing how he spends his time for the week. The supervisor guides each employee in the manner of preparation of this list. Because of his closeness to the situation, the supervisor is better qualified to do this than the analyst. Experience shows that the idea is grasped very quickly. If presented with proper consideration for the human relations of the situation resistance is seldom encountered.2

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2Irvin A. Herrmann, Office Methods Systems and Procedures, p. 134.
Probably no other one thing can produce success in work
distribution analysis so much as the whole-hearted cooperation
of each person concerned. The supervisor should first be sold
on the idea and the many benefits that he may obtain from its
use. The workers themselves should be told exactly what the
purposes of work distribution analysis are, and it should be
impressed on their minds that management is not trying to de-
crease any jobs. This education program is very important, and
if it is slighted it is most certain that the ultimate results
will not be nearly so productive.

Review of task lists by supervisor.—The next step in the
preparation of the work distribution chart is to review the
task lists that have been given to the supervisor. The super-
visor ordinarily reviews the task list and incorporates his
thoughts in the way of additions, deletions, or corrections;
but, the general practice is to have the supervisor accomplish
this in such a way as to preserve the record of the employee's
original thoughts on the matter.\textsuperscript{3} Morris states the point
even more plainly when he says, "Above all do not change these
charts yourself. They are the employee's record of the work
he does. If you change any and refer them back to him later,
with some critical analysis, he will only shrug it off."\textsuperscript{4}

\textsuperscript{3}Jerome Barnum, "Directed Energy in the Office Through
Work Distribution Analysis," \textit{Controller}, XVIII (October, 1950),
451.

\textsuperscript{4}E. L. Morris, "Work Distribution Charting," \textit{Office
Executive}, XII (July, 1951), 13.
It is important to accept the employee's figures if the supervisor does not have other checks on the time that he has placed on the task list. If the time appears excessive on minor tasks especially, the supervisor probably should accept the data. If the employee is padding the information he will be caught later more than likely.

Each task list very likely will not total the full number of working hours in a day nor will the weekly tasks total the full working hours of a week. Certainly no supervisor today expects his employees to stay at their desks every minute of the week. Another reason for this discrepancy is the fact that it is impossible for any one employee to account for every minute of the day regardless of how accurate a log he might keep. One author suggests a margin of 10 per cent as being accurate enough for work distribution purposes.\(^5\)

Limitations inherent in the task list approach—A correct statement of tasks depends upon an accurate, thorough, and up to date analysis of the job. Probably no other thing can substitute for the employee's own experience properly guided to produce this information. However, it is important to note that the time for these tasks is only an approximation when the employee prepares this task list himself. This suggests very strongly that there is still something to be desired

\(^5\)Barnum, op. cit., p. 450.
in the use of a task list prepared solely by the employee. Results from this method may be quite inexact for the following reasons: (1) Many times the employee is not sufficiently sold on the importance of the accuracy of the task list. (2) Certain employees will exaggerate the time on tasks, feeling that they would be penalized when their time does not total the full number of working hours. (3) Employees will fail to record some time as they will forget during heavy working periods. (4) Supervisors themselves have been known to suggest that their employees be liberal in time estimates for certain activities.

The answer to the problem of serious inaccuracies probably lies in supplementing the employee's estimates of the amount of time he spends each day on his tasks. In many offices today there are other sources of information with at least some such data. These sources will be discussed more fully in the next section of this chapter.

A final limitation, not entirely confined to the task-list approach but particularly significant when this source is the only one used, is the question of just exactly what constitutes an average week. Employees do not do the same work during each week of a month. The supervisor who is helpful must aid the worker to determine the average week. One method is suggested by Barnum who states that the average week can best be determined by going back to previous weeks and averaging all of these to determine what an average week is.
A final method of determining the time period to be covered by the work distribution chart is for the supervisor to determine which tasks are involved in a week with a normal work-load and then which tasks are usually performed during a heavy week. This would be especially helpful in a section that encountered one heavy work week during each month.

One ramifications of this method would be for the supervisor to prepare two separate distribution charts depicting these two work-loads. It would be possible to re-distribute work on a planned basis and, to relieve the tension on certain employees at that critical time of the month, and thus eliminate over-time if it has been required within that section.

Supplementary Sources for Work Distribution Analysis

There are certain supplementary sources that may be considered in the preparation of the task list to aid to or strengthen the validity of it.

Jouno makes the following recommendations of sources of tasks in regard to preparation of standards:

A correct statement of tasks depends upon an accurate thorough, and up-to-date analysis of the job. The basic source is the position description. Other sources of information are training time tables, job breakdowns, work measurement surveys, production goals, established deadlines, observations of employees by supervisors and the employees own experience.  

One of the first possibilities to consider is whether the analyst or supervisor has any of the above information at hand. This information would of course have been gathered for some purpose other than work distribution analysis, but if some of it is available it may be used to good advantage. It may serve as a tangible check on the employee's task list in any case; and if sufficiently accurate and complete, it may even replace the task list as the basic source of information.

There is little evidence that supplementary devices are being used to any great extent. The method of allowing the employee or supervisor to log his own time is the easiest and cheapest method of obtaining the information, but as was pointed out in the previous section this method is not likely to be completely reliable.

Some of the more promising of supplementary sources which often might be available will now be examined. These include organizational analysis, job analysis and job descriptions, time study and work measurement data, production control records, and procedures analysis.

Organizational analysis.—Organizational analysis, as was pointed out in Chapter II, is that type of analysis which seeks to discover how activities are grouped to form responsibilities and what jobs are needed to carry out these activities to best fulfill the objectives of the organization.
The analyst who seeks this information should attempt to discover who is responsible for carrying out these activities and to do all that he possibly can to conform to the accepted principles of good management such as delegation of authority, span of control, and straight line flow of authority.

Since work distribution analysis is a type of organizational analysis, it can aid the organizational specialist immeasurably in his work; but there are some things that the organizational analyst can do before he begins actual work on the work distribution chart.

First, he can help the supervisor by drawing up-to-date organizational and functional charts. These can assist the supervisor as he prepares his task list and later as he prepares his activity classification. By knowing which activities he is responsible for he can better know if his workers are doing jobs that are directly related to the mission or goals of the organization.

Second, the organizational analyst can perhaps remove any activities that do not fit into the assigned mission of the organization and thereby remove any further study. Perhaps something has been done in one office for years, after the need for it has passed, or just because it was there from the beginning of the organization. There would be no need to improve the distribution of the work for this activity since it would best be eliminated entirely.
Third, the organizational analyst can determine how important each activity is to the assigned mission of the organization. More will be said concerning this aid in the next section pertaining to the activity classification.

**Job analysis and job descriptions.**—Job analysis and job descriptions are useful in determining work distribution within a section. Job analysis is the study of the duties and demands of individual jobs. The information derived from such a study is set up in job descriptions. It is important that the job description carry a complete statement of duties of the individual job. Without this important information the job description loses much of its value and is reduced to a job summary indicating the general nature of the work only.

In recent years the functional job description has come into use. This type of job description groups the tasks into related groups of duties and often shows, in addition, the approximate percentage of total time which is devoted to each group of duties. An example of this type of description is the following:

**JOB TITLE:** Clerk Typist  
**JOB LOCATION:** Purchasing Department  
**DUTIES:**  
Percentage of Time  
Filing 30

1. Files 3X5 locator cards  
2. Files 8X11 correspondence  
3. Files 8X11 advertising  
4. Files purchase order and invoice
DUTIES:

<table>
<thead>
<tr>
<th>Percentage of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processes Purchase Orders</td>
</tr>
</tbody>
</table>

1. Types Purchase Orders from Purchase Requisitions

Messenger Duties | 10 |

1. Picks up Purchase Requisition from department heads

These functional job descriptions are more brief than the old-fashioned descriptions. The common method of gathering the information for this type of job description is by the controlled interview. Writing the functional job description is psychologically easier than "stringing" together a series of individual duties. The job is first looked at as a whole and then broken down into its major duties. An additional feature of the functional job description is the space provided for the percentage time spent on the job.  

The adaptability of job descriptions to work distribution analysis can be readily seen. Its usefulness will of course depend upon the completeness and the type of description.

If the usual type of job description is used for work distribution analysis it would be most helpful if the description carried a brief list of each task involved in the job and the approximate percentage of required time for the completion of these jobs.


9 Ibid. p. 386.
If the functional job description is used, it would be an invaluable aid to the work distribution analyst. The groupings for the activities and the tasks that make up each activity would be available directly from the job description. This type of description might even be made the primary source of information, particularly if the percentage of time is shown not only for each activity but for each task as well. Probably the job description should be broken down to the smallest possible tasks. By knowing this information the supervisor could compare the actual time spent on each activity with the job description and verify the accuracy of each. He could also plan in advance how long a job would require if he knew the approximate time required for each step.

Time study and work measurement programs.—The nature and the increasing importance of time and motion study and work measurement programs indicate possible usage in work distribution analysis. These programs during recent years, have gained considerable recognition as useful management tools for accurate measurement of work accomplished in the office. The office time standard is a determination through careful analysis of a satisfactory work output and of the time required to complete a given number of work units regularly.

The advantages of using time standards are many. They are important as a basis for work distribution. If a supervisor knows exactly how much a worker can do in a day he can better schedule the work and plan his production. Standards also place office work on a par with production operations as to adequate knowledge of how much is being done. Other important advantages of office standards are better control over costs and better morale and labor relations.

The two major methods of developing time standards are, (1) by past performance records, (2) by actual time study. Briefly each of these methods develop standards in the following manner:

Standards based upon past performance.—In this method a task list is used as explained earlier in this chapter. The worker breaks his job into certain broad categories such as posting, filing, typing, invoicing, dictation, and supervision. The employee keeps accurate count also of the number of these units accomplished. A standard unit of measure must be used in this method of developing standards. For example, a typist might type twelve letters a day from transcribed notes. If she had kept accurate time figures on her work she might record a total of 2½ minutes for the typing. The standard in this case would be 20 minutes per letter.

The advantages of this method are of course easily recognizable. It is a relatively quick and simple method of

Ibid. p. 632.
gathering the information requiring only five or ten minutes daily to record the information. Management can utilize the figures as an indication of time and work requirements. The weaknesses of this method are many, however. First, this method of establishing a standard measures only what is being done now. It does not indicate what should be done. Second, errors in timing are increased in this method. The employee must stop and remember after each operation how long the operation required and post it to his sheet. Third, many employees will not care to be bothered by such a program, or else they will not care to be shown up by a fellow employee, and will pad the information. Thus the inaccuracy of such a program of developing standards greatly reduce its value.  

**Standards based upon actual time study.**—The standard based upon actual time study is a more valuable tool than one based upon past performance records. Primarily, this is due to greater accuracy and more detail.

The usual method of determining this type of standard is to find an operation that is repetitive. The workplace should be standardized also, or the standard will not be a constant one. The worker is observed carefully and each step of the job is timed with a stop watch. The task should be broken down into minute operations and averages should be obtained for each step and then for each task. Statistical allowances are made for personal needs, fatigue, unavoidable delays and the like.

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12 Ibid. p. 683.
The preparation of time standards are valuable as an indirect source for information in work distribution analysis. In fact, a good time standard can virtually insure the accuracy of the work distribution chart if standards are known for each task in the chart.

For example, if a standard has been computed for the total time required for furnishing factual data on a form, it might appear as the following:

<table>
<thead>
<tr>
<th>TASK DESCRIPTION</th>
<th>STANDARD TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaches for Blank Form</td>
<td>2.11 Seconds</td>
</tr>
<tr>
<td>Inserts in Typewriter</td>
<td>3.00 Seconds</td>
</tr>
<tr>
<td>Types from List</td>
<td>49.89 Seconds</td>
</tr>
<tr>
<td>Removes from Typewriter</td>
<td>5.00 Seconds</td>
</tr>
<tr>
<td>Standard</td>
<td>61.00 Seconds</td>
</tr>
</tbody>
</table>

This total time would make up one operation of the task, "filling out Form P-55." If it is known how many of these forms are required for the average week this can be multiplied times the standard to arrive at the total time required for this task for the week. Guessing and approximations would be all but eliminated.

Production control records.—Some authorities recommend the use of control charts or planning charts in collecting the information for the work distribution chart. Involved, principally, would be the records of work assigned to employees by their supervisor, and of time actually required to complete the assigned work.

A typical example would be the Gantt Progress Chart in which duties assigned currently to individuals are shown
graphically, and work completed can be compared readily with that assigned. Since these charts show the number of units accomplished and the time required in accomplishing them, they can be adapted to use in work distribution analysis. Operations performed could readily be translated into tasks for work distribution.

The simplicity of allowing the supervisor to record work accomplished is the main advantage of using this method. The total operations accomplished are valuable information in determining total work load, and the work distribution analyst may compare the total with the total time for the task on the work distribution chart.

**Procedures analysis.**—Procedures analysis is a final indirect or supplementary source available to some work distribution analysts. This type of analysis looks at each clerical step in an operation and attempts to improve on the flow of the work as it progresses. Procedure analysis cuts through departments or units to determine the most practical and economical method of completing the operation. From this analysis it is possible to adopt formal plans of execution and put these in writing to be carried out by all employees.

The advantages of such procedural analysis are many. The most important advantages are:

1. Delay and waste in time are minimized. The successive steps are predetermined and known. Hence, delays are reduced in deciding what to do next, and hesitations are avoided.
2. Uniformity of action is obtained. Common clerical tasks are handled in an identical manner each time they occur. Work can be easily located and quick checks on progress can be made. Standardized forms, work habits, and controls can be utilized.

3. Savings in costs in office operations are usually realized. Procedures help to keep the work moving, to guide workers in their respective tasks, and to eliminate unnecessary steps.

4. Fixed responsibility for work can be attained. The use of procedures divides the work operations so that definite office tasks can be assigned.

5. The work of training personnel is simplified. The duties and operations of each job are clearly defined. Information is known regarding what the employee must be capable of doing.13

The most publicized method of making procedures analysis is by the use of flow charts, process charts, and movement diagrams. Each successive step in an operation from the time it is received until it is completed or destroyed, should be shown on these charts. This information can sometimes be adapted readily to work distribution analysis.

The adaptation of these charts to work distribution analysis lies in the very use for which they were designed. That is, to perform as many tasks as possible during the time of the operation and to determine and record standard times for the various elements. All that would be needed would be to time each operation, storage, delay, or checking activity to have an approximate standard operating procedure. This operation would correspond to some task being accomplished as shown on the work distribution chart. Each series of tasks would total to an entire operation or activity.

13 Ibid. p. 605.
One feature of process charts that would be especially helpful would be always to include the length of time of each class of activity and the feet and distance traveled.

Sources of Information for Classifying Activities

The next step in the preparation of the work distribution chart is to prepare an activity classification. Generally speaking it is considered good practice to have the supervisor prepare this list, with the analyst or consultant asking questions that will promote depth thinking. This list consists of the principal functions or activities for which the particular section is responsible. It differs from a task list in that tasks are the routine aspects of activities. One activity may consist of several tasks.

These functions should be grouped in as few categories as possible. There is little agreement as to just how many functions there should be. However, if there are too many groupings similarities and other relationships among activities may not appear; and if there are too few groupings, some significant differences may be lost.

One authority suggests the following procedure for obtaining the activity classification:

Now let's go into the activity list. This is a job for you, as supervisor, to complete. Your first step is to determine your objective—What do you really want to find out? The first thing to do is to pinpoint your requirements.

Do you want to find out how long it takes to make a statement?
How much compilation, checking, typing etc.? Or, do you want to know how much typing is done in your department and on what jobs the typing time is spent?

This is important if you are to avoid a lot of needless work and waste time in setting up your chart.

After determining your objectives, then list the functions in your department. In addition, you probably will need a miscellaneous line on which to put those odd small-time jobs that are present in every department. 14

Another authority, in regard to the activity classification, indicates the following:

This list records the major activities carried on by the group being investigated. The list can be obtained from the group supervisor. Other sources which may be available for obtaining this information and for checking the completeness of the supervisors list are the inventory surveys of forms, reports, and filing procedures. To eliminate unwarranted detail certain minor activities are usually grouped under a "miscellaneous" heading. 15

One method of developing the activity classification is for the supervisor to ask what are the tasks of the employees accomplishing? In other words, what are the end products of all of the work done within the section. For example, the supervisor knows that John Smith checks invoices and enters them into the Accounts Payable Ledger. In a small accounting department this activity would very likely be "Accounts Payable."

Supplementary Sources for the Activity Classification

For most purposes the conventional task list and activity classification may be quite suitable. Their accuracy

limitations are such as to suggest the need for sharper tools in securing basic information for work distribution analysis. In a previous section in this chapter it was pointed out which of these supplementary sources might be used in securing basic data for the task list. There is also certain information available to supplement the judgement of the supervisor and analyst in preparing the activity classification.

Three important devices that can be effectively utilized in work distribution analysis are the organizational chart, the functional chart and the organization manual. Each of these will now be briefly considered.

**The organization chart.**—The organization chart can be utilized in work distribution analysis by including such information as job title, number of employees, and job level. This chart is the first step in determining who is responsible for each function. There is usually a great deal of misunderstanding as to the responsibility of functions especially if they are of a planning nature. This chart can be utilized not only in determining the number of employees and their names but also in the determining of chain of command and the line of authority.

The chart many times will point out the job level or skill level of the various employees. This is valuable to the work distribution analyst in that he can determine the most important or key employees from their job level.

**Functional charts.**—If functional charts are readily available, and if they are accurate and factual they can
be used successfully in determining the proper utilization of personnel. The supervisor should follow this chart as closely as possible in assigning responsibility. The functional chart is also useful in preparing job descriptions.

The main duties of the job and the amount of time required for each activity are also shown on the functional chart. This amount of time is usually expressed as a percentage of the total time. The following is an example of an entry of this type: Typing — 20 per cent, Dictation and Transcribing — 10 per cent, Calculating and Computing — 30 per cent, Billing — 20 per cent, Accounts Payable — 20 per cent.

This type of functional chart is easily adaptable for use as an activity list in a section and later will come into important use in comparing the actual results of work distribution charting. Functional charts that do not record such information should be changed if they are to be used in connection with work distribution analysis.

Organizational manuals.—The organizational manuals in most companies may also be used as an indirect source for the activity list. These manuals are usually prepared in connection with organization charts, and often times show major functions and activities of a department.

Barnum, indicates the importance of these manuals in his statement:

Many modern companies have prepared organization manuals which show lines of authority and basic distribution of major functional responsibilities. If such
a guide is available the consultant will want to compare the activity list with the organization manual to determine if any functions of the organizational unit have been omitted from the activity list.¹⁶

The possibility of these manuals to be used in work distribution analysis lies in the information that they supply similar to that indicated in the functional chart. If they are complete, they should show the breakdown of duties by sections and might be easily adapted to compare with the activity list developed by the analyst. This might be accomplished by adding the feature of showing the percentage of time that each of the activities involves. Also, this information could be useful in planning and control, as well as adaptable to work distribution analysis.

CHAPTER V

CHARTING, ANALYZING, AND INTERPRETING RESULTS

OF THE WORK DISTRIBUTION CHART

Charting the Compiled Information

Procedures involved in obtaining basic data on employee tasks and in classifying these according to major activities were considered in Chapter IV. The next step in the preparation of the work distribution chart is to copy the activity list on the chart. The most time consuming activities can be emphasized by listing them in descending order. The tasks are listed under a column for each employee in the activity, and are grouped horizontally under the appropriate activity mentioned to the left.

Employees ordinarily are arranged in order of their importance or salary, with the supervisor being listed in the first column. Usually the job title and salary are shown in this list. The total hours for each employee, as they have listed them, are also shown in this list. The total hours for each activity are determined by adding horizontally. Total hours for employees should balance with total hours for activities.
Morris describes this phase of the charting in the following manner:

Now go back to the task list gathered from the employees. In the column provided for posting to activity number enter the activity number you determine into which each of the tasks falls. Transfer the activity in the "activity" column to your work distribution chart and the tasks to their respective task columns and lines. Total your work hours and tasks, and your chart is complete and ready for analysis.¹

Another authority gives the following instructions:

The major functions or activities of the unit are listed in the left column of the chart. Names and job titles of employees are spread across the top of the sheet in separate columns. The contributions of each individual to the major functions of the group are then described in the appropriate horizontal segments of each column. An important additional feature is the recording of time spent by the individual employee on each task and by the unit as a whole on each function.²

Finally, the following instructions are given by Herrmann:

Activities are recorded in the left column in order of decreasing importance. Employees' names and job titles are recorded in the headings of the other columns, in order of decreasing importance of responsibilities. Tasks for each employee and the estimated hours devoted to each task are recorded in a vertical column for each employee and horizontally by activity to complete the summarization.³

The information is now presented in such a way as to tell the analyst what work is being done in an organization unit and what work each individual in the unit contributes.

³Irvin A. Herrmann, Office Methods Systems and Procedures, p. 134.
The chart, therefore, tells what is done and not necessarily how it is done.

The chart is now ready to be analyzed. The supervisor—perhaps assisted by an analyst, as will be considered in the next section—can proceed with the analysis with the following information at his fingertips:

1. A complete list of all the activities in the unit listed in their importance to the mission of the unit.

2. The total number of hours spent on each of these activities.

3. The total number of hours that each employee is engaged in productive effort in the office.

4. The total hours that each employee devotes to the tasks in the office.

5. A breakdown of each employee's duties and the approximate time he spends on the major parts of the job.

Analyzing the Work Distribution Chart

After completion of the chart of the present work distribution, the analysis phase must be undertaken. This step is the most important of the steps in work distribution analysis and the most difficult. Only by careful analysis can the advantages and purposes of work distribution analysis be realized.

Who should make the analysis.—In the analysis phase it is important that complete cooperation between the supervisor and the analyst exist. Each must apply his knowledge
to the analysis—the supervisor with his knowledge of the individual unit and the individual workers—the analyst with his wider knowledge of company procedures.

In previous steps it was suggested that the analyst should use his knowledge in training and instructing supervisors in the purposes and procedures of work distribution analysis. He also should be brought into the determination of the activity classification along with the supervisor. And now, in the analysis of the work distribution, he can use his broad knowledge of procedures and company policy in assisting the supervisor in interpreting the information that has been charted. He can perhaps contribute something to the analysis that the supervisor could not see because of his nearness to the work.

The supervisor has been mentioned as the logical person to do the gathering of the information from his employees, usually after careful explanation of the purposes of the study. He also charts the information and prepares it for the analysis phase. Along with the analyst he can begin interpreting the information on the chart, contributing his knowledge of the routine aspects of the work and the skills and talents of the workers in the unit.

Other staff and department heads may be brought in later in the analysis phase, especially if some work is going to be transferred or eliminated. This will aid in achieving
closer cooperation and will permit each department head to contribute his experience and knowledge.

It is essential that whoever makes the analysis should question each detail of the chart and determine the purpose and essentiality of each task performed. He should not be biased to any degree in his analysis. He must be completely open-minded.

Steps in analysis.—Procedures recommended by authorities on work distribution analysis, although similar in the basic steps, lack consistency in details of analyzing the information. Therefore, a synthesis is needed to compare authoritative recommendations and to develop a standard approach. Analysis for this purpose, seems to be chiefly a mental process of knowing what to look for and asking the right questions in the most effective sequence.

Two authorities list the same six questions that should be asked in analysis. These authorities, Herrmann,\(^4\) and the Public Administration Service,\(^5\) ask the following questions:

1. Which activities take the most time?
2. Is there any mis-directed effort?
3. Are skills being used properly?
4. Are employees doing too many unrelated tasks?

\(^4\) Ibid., ch. cit., p. 131.

(5) Are tasks spread too thinly?
(6) Is work distributed evenly?

Another authority lists the following questions in this approach to work distribution analysis:

(1) Is there any seeming disproportion of time?
(2) Are any of the key personnel spending an appreciable amount of time on tasks which could be delegated to others?
(3) Are any of the employees assigned tasks which are above their skill level or training?
(4) Are there too many people doing the same job?
(5) Is any employee performing too many unrelated tasks?
(6) Which procedures seem to warrant the preparation of flow process charts for more detailed analysis?
(7) Which procedures seem to justify a large amount of time for study. 6

This approach emphasizes the utilization of skills of the employees and the tasks that each is doing. The application of work distribution analysis to methods improvement and work simplification are many.

A quite different approach is presented by Morris. This method questions every phase of an activity by asking why, what, where, when, and who, in regard to the chart. The following questions are asked by this authority:

In considering "Why"—

Why is it done? Why is it necessary? Is it being done in the right place? Should it be done?

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Can you eliminate the job? Does it fit into the assigned objectives of your department?

In considering "What"—

What do you gain by this activity? What good is it to your company? What time does it take? Is the time reasonable in relation to the value gained?

In considering "Where"—

Where should the job be done? Where are suitable machines located. Do other departments have supervisors more capable of handling the job? Do other departments do similar work? Could either of these operations be eliminated or combined into one operation?

In considering "When"—

When should the activity be carried out? When do you fit the various tasks into your employees schedule? Can you hold up certain action so that a batch or group of work can be processed at one time, thus saving make-ready and put-away time? When is each issue required? Is it a routine operation? Would random issues be satisfactory?

Finally the question of "Who" is applied to the chart by the following:

Who should do the job? Who has had the proper training and who has the skill required? Who does similar work? Could you fit it into their operation so that grouping or batching can be effected? Who in your staff should be the top operator? Who should be your specialist? Who is best at the job? Who will substitute? Who is trained to take over when your top operator is away?

This author concludes by showing how these questions should be applied to the tasks of the individual workers also. Each question should be first asked in regard to the activities and then asked in relation to the tasks, performed by the employees.

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7Morris, op. cit. p. 13. 8Ibid. 9Ibid. 10Ibid., p. 14. 11Ibid.
Another method of analysis is suggested by Barnum. In this method of analysis he divides the analysis into the following sections: (1) The activity audit, (2) Activity analysis, (3) Analysis of each person's work independently.  

The activity audit consists of looking at all of the activities as a whole. This information on the left side of the work distribution chart, presumably composes all of the functions performed in the group. Before accepting this fact it must be determined if all of the activities being conducted are listed. Supplementary sources of information which may provide checks on this were considered in Chapter IV.

Another thing that the analyst must consider is whether the activities are adequate and logical in carrying out the goals of the unit. At this point it might be necessary to conduct a rather complete organizational study if one has not been made already. If some activity has been assigned to the unit but is not being performed, it still should probably be listed.

The next important question in the activity audit is to determine, "What are the major activities—and is the time being spent on these the major portion of the total time." If the major part of the time is not being spent on these important activities the analyst should of course

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13 Ibid., p. 507.  
14 Ibid.
question the reason as to why they are not. At this point the analyst should question if the time spent on the major activities is logical and at the same time compare this with the amount of time being spent on the minor activities. The important result of this approach is to determine if too much time is being spent on the incidental or miscellaneous activities. 15

The next portion of the activity audit is to determine if there are too many unrelated activities. Each unit is responsible for certain activities which should fall within a logical grouping. Certain activities are assigned to a unit in the beginning and have always been in that unit even though it is no longer necessary to have them there. Unless there is a logical grouping of these activities the supervisor is unable to do his planning and control of all of these activities. 16

The final step in the activity audit is to question the minor activities. Here the analyst asks the questions, "How much time is spent on the other activities?" Can the activities be eliminated, combined, or removed to another section performing like or similar work? 17

Analysis of individual activities is the next step included by Barnum. This is accomplished by taking one activity at a time and considering only the data appearing on the chart applicable to that one activity. This should be

15 Ibid. 16 Ibid. 17 Ibid.
done by starting at the top of the activity list and going across from left to right. All of the duties making up this activity should be considered first to get a true picture of all of the work of that activity. 18

The activity breakdown is the breakdown of the tasks within the activity. The following questions should be asked in reference to these tasks: "Are all of the things required to accomplish that activity assigned to some one person or group?" "Are there any nonessential duties?" "Are the essential duties properly distributed?" By this analysis it may be determined if the work can be performed best on the assembly line basis or the assignment basis. It may also determine if work can be held up in groups to better facilitate the accomplishment of it. 19

The next important point to consider in the activity analysis is the amount of time spent on the major duties. Perhaps too much time is being spent on the unimportant aspects of the job or on checking or taking it from one desk to another. Finally, it must be determined if the work is being accomplished by too many employees. If there is duplication of responsibility or overlapping authority it is a good sign of poor organizational practice. 20

Finally, within the individual activities it is important to determine if the right people are being used on

18 Ibid. 19 Ibid. 20 Ibid.
on the tasks. The proper utilization of skills can aid materially in the accomplishment of jobs, promptly and efficiently. Then to, it is important that the highly paid people use their best skill as much as possible.

The third and last step in analysis of the chart deals with the analysis of duties by individuals. In conducting this analysis the analyst is primarily concerned with the way the job of each person has been broken down. This involves the looking into the skill and the time spent on the individual jobs. The percentage of time being spent on the job, when the operator is using his top skill should be determined. The analyst should also determine if the tasks of the workers are related. A few unrelated duties may be relaxing and relieve monotony. However, too many lead to confusion, nervousness and tenseness. Deadline jobs on the other hand are to be avoided. Too much of this type of work creates strain and anxiety. Especially is this true if one worker has a great deal of this type of work.

Synthesis of authoritative opinion on steps in analysis.— Each of the authorities quoted in the preceding section has contributed questions that need to be answered in analysis of the work distribution chart. Since the authorities duplicate each other in their presentation, but differ somewhat in detail, the following synthesis has been developed to better present all of their views in their proper perspective.

\[21\text{Ibid.}\] \[22\text{Ibid.}\]
The following categories or classifications are based upon a presentation by one of the authorities just quoted, Jerome Barnum: (1) Analysis of the mission or objectives, (2) Analysis of each activity performed, (3) Analysis of individual tasks performed. These major phases will be used as main headings in the synthesis, and specific questions suggested by other authorities will be fitted in.

**Analysis of the mission or objectives.**—The first step is to carefully review the mission of the unit to determine the primary reason for the unit's existence. If this mission is in writing the task will be simplified, but if it is not it might be well to do this. Each activity should contribute to the fulfillment of the objective, and therefore should be carefully studied to determine how well it does this.

It is important to question the very existence of each activity. Why is the activity being done? Why is it necessary? What is being gained by the accomplishing of these activities? What good is it to the company? These questions are thought-provoking and difficult to answer, but they should be considered.

Another important question to ask is, whether these activities are logically related in carrying out the mission. Are they fairly similar? In order for the supervisor to accomplish the mission, he should not be called upon to do many different types of activities. The analyst may determine that their is a poor organizational grouping of duties if
there are varied types of activities. A logical grouping of activities will enable the supervisor to better plan and carry out his work.

The second step in carrying out the review of the objectives of the unit is to consider the major and the minor activities. The first and most important question is the following: "Which are the major activities?" The major part of the employees' and the supervisors' time should be spent on these. If for some reason it is not, it should be determined why. Another question, "Is there any seeming disproportion of time?" From this question, it is possible to determine if some of the minor activities are requiring as much time or more than the major ones.

If some activities are badly out of proportion they should be carefully examined, applying the following questions: "Can the work be eliminated?" "Can it be combined?" "Can it be removed to some other department doing similar work?"

**Analysis of individual activities.**—The second phase in analysis of the work distribution chart is to analyze each individual activity and break it down into individual parts. This is accomplished by reading from left to right to get in mind each step necessary to accomplish the activity. For example, an activity of "Credit Information" might be listed as the following: (1) Reviewing credit applications, (2) Requesting information from reference sources, (3) Answering
requests for references, (4) Preparing delinquent notices,
(5) Determination of delinquent accounts.

After the analyst has these steps in mind he should apply the questions of "Who", "Where", "When" and "How". "Who is presently doing the work?" By this approach he determines if all of the tasks are assigned to some one person. Perhaps there is duplication or overlapping of responsibilities. This gets into the all-important question of, "Are any of the key personnel spending an appreciable amount of time on tasks which could be delegated to others?"

In considering "Where", the supervisor considers the possibility of doing the work elsewhere. Where are the proper machines located? Do other departments have supervisors or personnel more capable of doing the work? Do other departments do similar work? Could any activity be eliminated or combined into one operation?

In considering "When", the analyst must determine, "When should the activity be carried out?" "When can the tasks be fitted into the various employees' schedules?" "Can certain jobs be held up so that a batch or group of work can be processed?"

In considering "How", the analyst should be concerned with the breakdown of the activity in relation to the various employees. Again the question is appropriate: "Are the employees spending most of their time on the major part of the activity?"
Are the essential duties properly distributed? This of course must take into consideration the skill of the employee. The highly paid, skilled operator should be doing work that is comparable with that skill, but care should be taken not to send a boy to do a man's job.

Analysis of tasks of individual workers.—In conducting this phase of the analysis, the primary concern of the analyst is the method each person is using in performing the work assigned to him. This should be accomplished by reading down the duties under each person's name. Three important considerations to be made are, (1) How much time is being spent on the tasks of the employees? (2) How are the skills of the employees being utilized? (3) How are the skills and tasks related to each other?

How much time is required to do the task? Is the time proportionate in relation to the number of units? Do the major parts of the task require most of the time? These questions attempt to pin-point the relation of time to the duties. Perhaps one individual does not have enough work to stay fully busy, while others are burdened with work. This should point out these employees.

Are skills being used properly? Who has had the proper training and who has the skill required? Who in the staff should be the top operator? Who should be the specialist? Who will substitute? This attempt to determine skill utilization is applied to the individual job alone, and not on other activities.
Finally, the question, "Are employees doing too many unrelated tasks?" This important question must be asked to determine if the tasks fit into a pattern of related related tasks. If there are too many unrelated tasks the employee cannot plan his work and it might lead to confusion, nervousness and tenseness. However, a few unrelated duties may be relaxing and even relieve the monotony of the regular job. One excellent method of relieving the monotony of a task is to be sure the employee knows the relation of his task to the fulfillment of the final objectives of the unit. The employee must have the knowledge that he fits into the group and contributes his share to the end result.

Application of Findings of Work Distribution Analysis

The analysis of the work distribution chart has now been completed and changes should be in order. This of course is the primary purpose of work distribution analysis. In appraising possible improvements, the analyst must again employ the questioning approach that he used in analyzing the chart.

An immediate goal in improving the existing arrangement is to prepare a new work distribution chart in light of changes made during the analytical phase. The analyst must satisfy himself that the new method is better than the former method. This should be based upon careful and thoughtful weighing of the costs and utilization of personnel. Whenever possible,
dollars-and-cents savings should be listed as this will lend greater credibility to the selling job of the analyst. If dollars-and-cents savings cannot be made, other arguments should be listed, such as better quality of work or better relations with employees or management.

One author lists the following improvements that are possible by proper analysis of the work distribution chart:

(1) It serves as an aid to evaluation of procedural changes.
(2) It sometimes helps the analyst to put a price tag on a report or a procedure.
(3) The chart often helps to keep a proper perspective on the part of the supervisor as well as the analyst.
(4) It encourages the supervisor to think analytically about his own section.
(5) It provides the supervisor to think with a tool that he can use for many years after the analyst has completed his study.
(6) It helps to reveal any supervisor who is an "empire builder."
(7) Sometimes it discloses a weakness in the internal control previously overlooked.\textsuperscript{23}

These improvements and others are dependent upon the situation in each office and the condition of the organization as it presently exists. It is possible to go even further with the improvements through use of flow charts, procedural standards and method improvements, where these seem justified by the findings in work distribution analysis.

Other recommendations cannot be made at once for a number of reasons. Many procedures require detailed study, and

\textsuperscript{23}Hume, \textit{op. cit.}, p. 28
changes often cannot be made immediately. Other changes are too costly to be made or require too much study, indicating that the costs would outweigh the benefits. Still others cannot be made because of insufficient training or equipment. Also, it is better to leave a procedure just as it is than to assume certain results that may or may not come to pass.

Maintenance of the work distribution chart is important. The department can use it to good advantage in the future. The proper person for its maintenance ordinarily would seem to be the supervisor. He is the person most likely to make use of the chart, and he is responsible for efficient results in his section. Any time that he desires to make a change in his organization he should consult the chart and pencil the changes in to see if they conform with good work distribution principles.

One phase of work distribution analysis that is given little treatment by the authorities on work distribution is how the analyst may overcome the resistance of higher management, supervisors directly involved, and workers.

Many times it is not possible to incorporate changes just for change sake; and even when changes are carefully thought through, certain principles should be applied when selling both top and bottom management.

The analyst or methods staff has the responsibility of selling the entire program of work distribution analysis.
Since some supervisors would tend to resent interference in their section, this phase is important. The purposes and results of work distribution analysis should be explained to him carefully, giving him a chance to answer and ask questions at will. He should also be given the opportunity to explain the method and results to his own workers unless he would prefer that the analyst or top management do this.

The analyst has still more of a selling job when it comes to selling top management on any improvements that are far reaching, especially if they reach into other departments. If the changes involve transfer of work to other sections, the analyst must be sure they are justified.

Selling the recommendations of the analyst can better be accomplished if an effective report showing these changes can be drawn up. The advantages determined in working out the improved method should be set forth—cost reductions, better utilization of personnel and equipment, better service to customers, improved morale of employees, and others. The report should follow good principles of report preparation. Concise and clear wording is vital. Exaggerations should be avoided.

In summary it might be stated that without the cooperation of the supervisor and management, the analyst's job will be much more difficult and many times impossible.
The supervisor has the job of selling the workers on the method, and securing the information for the chart in a complete and accurate manner. This, of course, also must involve careful cooperation and consideration of the individual workers involved.

It is probably better to approach the workers with evidence of how their work may be improved and lightened. Most workers will cooperate with this approach much better than one where changes are pressed against their will. The workers also should be allowed to see projected improvements in order to understand what they will be expected to do in the future as compared with the past.

The employees should be encouraged to contribute toward improvements. In some cases this can be tied in with the regular rewards which may include cash, time off, public recognition, or others.

If some employees seem to resent changes or to resent the interference with their jobs, the utmost finesse should be used by both supervisor and analyst. This type of employee should be encouraged to contribute changes and could perhaps be given some job in preparation of the chart.

The analyst and supervisor alike should be well prepared for any opposition. They should have the authority as well as the responsibility to carry out the program. The program might be included in a procedural or office manual, and if used, should be used continuously, and not allowed to stagnate.
CHAPTER VI

PRACTICES OF LEADING COMPANIES

Source of Information

The information presented in this chapter was obtained from a questionnaire mailed to thirty leading companies in the United States and Canada. They were selected partly on the basis of their large size and partly on the basis of reputation for progressiveness in the methods and procedures field—with the latter indicated chiefly by published descriptions of programs of this sort in professional journals. It was considered probable that most of these companies would have made use of work distribution analysis and would be able and willing to share their experiences.

A copy of the questionnaire is presented in the Appendix of the study. The points stressed in the questionnaire were the weaknesses of the traditional methods of preparing work distribution analysis, gathering the basic information, and making the final analysis.

As this study was not an attempt to make an exhaustive statistical survey, but merely an attempt to determine how a small group of leading companies have met the problems encountered in work distribution analysis, no attempt will be made to use tables or percentages in presenting the
information. The information received from these leading companies will merely be summarized. Then, the next chapter will suggest a model approach for work distribution analysis based upon this information and upon the earlier chapters which dealt with published descriptions of work distribution analysis.

Presentation of Findings

Of the 30 questionnaires mailed to the leading companies, a return of 80 per cent resulted. Those returned were usually completed by the methods and procedures departments of these companies. These 24 questionnaires were used in tabulating the answers to the individual questions for the following summary of results.

1. Please indicate below if your company has used work distribution analysis at some time:

   12 Now use regularly  12 Have never tried

Of the 24 who returned the questionnaire, 12 indicated that they now use work distribution analysis regularly, and 12 had never tried. None of the firms indicated that they had ever used work distribution analysis and had discontinued its use. The 12 firms who now use work distribution analysis seem to be enthusiastic in its use, as many wrote letters indicating that they had achieved good results in using it.

Some of the companies also volunteered the information that work distribution analysis is being used in their methods simplification program. Others said it is used in a planned approach to improving organization and methods, and still others stated
that they use it to determine where improvements in procedures and processes might be made. Finally, it was stated by some companies that they use work distribution analysis in connection with work measurement surveys.

In subsequent questions, practices found in the 11 companies, submitting complete responses, will be described.

2. In most organizations using work distribution charts, several people participate in their preparation and use. These usually include some combination of outside consultants, own methods staff, supervisors, and workers.

A. Please indicate the person or combination of persons who instituted this type of analysis in the beginning:

<table>
<thead>
<tr>
<th></th>
<th>Methods Department</th>
<th>1</th>
<th>Outside Consultant</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Combination of both</td>
<td>2</td>
<td>Others</td>
</tr>
</tbody>
</table>

It is clear that in these companies, the methods department has been the principal department to institute the program. This is logical in that trained analysts are likely to see the capabilities of such a program, and to incorporate it in their planned approach to scientific management.

B. Please indicate the person or combination of persons who train supervisors in the use of the basic approach:

<table>
<thead>
<tr>
<th></th>
<th>Methods Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Methods Department</td>
</tr>
</tbody>
</table>

There was complete agreement on this phase of work distribution analysis among those furnishing answers. All delegate this important responsibility to the methods department.

C. Please indicate the person or combination of persons who obtain basic data on worker's tasks:

<table>
<thead>
<tr>
<th></th>
<th>Methods Department and Supervisor</th>
<th></th>
<th>Supervisors</th>
<th>Methods Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Methods Department and Supervisor</td>
<td>3</td>
<td>Supervisors</td>
<td>1 Methods Department</td>
</tr>
</tbody>
</table>
The companies appear to show a preference for allowing the supervisor to work with the methods department on this step. Probable reasons for this are that the supervisor desires the backing of the staff department, and better and more accurate information might be secured with the help of trained analysts.

D. Please indicate the person or combination of persons who determines activity classification:

\[ \begin{array}{c}
1. \text{Methods Department and Supervisor} \\
2. \text{Supervisor} \\
3. \text{Methods Department}
\end{array} \]

The question does not appear to be conclusive pertaining to this step, however, it does indicate that even though there is little uniformity in the answers, there is probably quite a lot of cooperation in this step. Also, it might sometimes be possible that this information is available from other sources readily available.

E. Please indicate the person or combination of persons who make the work distribution chart itself:

\[ \begin{array}{c}
6. \text{Methods Department} \\
4. \text{Methods Department and Supervisor} \\
1. \text{Supervisor} \\
3. \text{Methods Department}
\end{array} \]

It is interesting to note that the majority of these companies used the methods staff to chart the analysis, and that in most of the remaining companies the methods staff worked with supervisors.

F. Please indicate the person or combination of persons who interpret the results and decide on improvements:

\[ \begin{array}{c}
6. \text{Methods Department and Supervisor} \\
5. \text{Methods Department}
\end{array} \]

Cooperation between the department and the supervisor appears to be important in this step, as any improvements
suggested would necessarily be put into effect only with the approval of the supervisor.

3. Describe which attitude characterizes your supervisors' reception to work distribution analysis:

6. Interested and enthusiastic
2. Cooperate without enthusiasm
1. Inclined to resent
2. Varying attitudes among different supervisors

Describe which attitude characterizes your workers' reception to work distribution analysis:

2. Interested and enthusiastic
5. Cooperate without enthusiasm
1. Inclined to resent
3. Varying attitudes among different workers

An interesting comparison is found here, revealing differences in the attitude of supervisors and workers toward the program. However, since the supervisors and workers receive varying amounts of selling, with the former receiving the greater portion, it is logical that the supervisors should have the better attitude. The evidence is strong that more selling to the worker is needed to overcome this indifference or resentment.

4. In the preparation of the task lists of the employees, please indicate how this information is secured:

4. Employee lists his tasks and approximates time for each task
1. Employee is observed and exact time is recorded for each task
2. Other sources are used to obtain this information
4. Combination of other sources and allowing the employee to approximate his own time

This indicates that few companies rely upon the employee alone for the information for the task list. It is doubtful that this method could often be eliminated entirely since its
simplicity and ease of computation permits its use when other methods are not available. However, the reliability of this method seems to be questioned in several firms, since they check the information supplied by the worker with supplementary sources.

The next part of this question deals with those supplementary sources that may be used to check the employees figures. For the 6 firms using these, the sources are:

If other sources are used, please indicate which of these are used:

1. Procedures analysis alone
2. Work measurement data alone
3. Combination of above sources
4. Job descriptions alone

The companies that use supplementary sources indicate wide use of all of the sources listed. Especially is this true in their application of procedural analysis as a supplementary source. Standard unit times, when used, are usually multiplied times the total work volume to get the total unit time. This method appears to be fairly commonly used and seems to produce excellent results as indicated by statements volunteered by some companies.

5. In the preparation of the classification of broad activities in a section or department, what source is used?

1. Judgment of supervisor
2. Combined judgment of both supervisor and analyst
3. Other sources used with above

The next part of this question deals with those supplementary sources that may be used to check the supervisors' and analysts' classification.
If other sources are used, please indicate which of these are used:

1 Organizational charts  1 Functional charts
1 Combination of both

In the activity classification it appears that supplementary sources are not used widely. This might indicate that the activity classification is somewhat easier to compile than the task list. Cooperation of the analyst and supervisor is evident in this step, perhaps because the supervisor is readily able to recall each activity and because the analyst can help in classifying task data already secured.

6. Please indicate which method is used for determining an acceptable or representative work week in securing basic data on employees' tasks:

0 The first week that figures are obtained for is used
1 A week is used that is thought average by the employee or supervisor
2 Several weeks are used and a typical week is selected
4 Several weeks are used and are averaged arithmetically
0 Two or more patterns are established—perhaps one for a normal week and one for a heavy week
1 Other methods are used

This seems to be one of the most difficult problems in work distribution analysis, and it probably is seldom given the attention that its importance warrants. It is evident that most of these companies attempt, in various ways, to secure data for an average or typical week. It is interesting to note that none of the respondents attempt to establish more than one pattern for various work loads. One company indicated wide use of work measurement and standard unit times, and stated that these supplementary sources of information greatly simplify the problem of work week selection.
The companies appear to offer only a few changes in the traditional methods of work distribution analysis. These large companies in many instances employ recognized experts in office methods and procedures, and many of them have previously contributed greatly to the older field of procedures improvement. Their responses indicate much interest in improving techniques of work distribution analysis. No doubt they will be able in the future to develop even sharper tools in this promising area.
CHAPTER VII

MODEL APPROACH TO WORK DISTRIBUTION ANALYSIS

The purpose of Chapter VII is to present a model approach to work distribution analysis based upon conclusions and recommendations developed in the previous chapters. Apparent weaknesses of traditional methods of charting and analyzing the information, as noted in previous chapters, will be given particular attention.

The basic task information used for the model approach is a hypothetical arrangement for an order department, set up merely to illustrate the approach.

The problem will follow a careful step-by-step approach as developed in Chapter III, which dealt with procedures and problems usually met in work distribution analysis.

The conclusions and recommendations reached in this case will serve as the conclusions and recommendations of this study. It is hoped that they will aid others attempting work distribution analysis to gain an insight into the methods and practices recommended by standard authorities and followed by leading firms. Limitations for further study in relation to the problem will greatly depend upon the need for scientific tools in the future.
A Hypothetical Problem for Work Distribution Analysis

The AVC Company is a medium-sized manufacturer of small electrical hardware items. It employs approximately twenty-five salesmen throughout the country. The Order Department of the company employs five people.

Orders are received from salesmen in duplicate, and they are sent from the Mailing Department to the Order Department. The Order Department then separates the two copies of the order and sends the original copy to the warehouse where the order is filled and then sent to the Shipping Department. This copy of the order is returned to the Order Department showing the exact amount shipped.

The Order Department then types invoices in four copies, two being mailed to the customer, one retained in the Sales Record Department, and one sent to the Accounting Department.

The following people compose the department:

<table>
<thead>
<tr>
<th>NAME</th>
<th>JOB TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. James</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Miss Hale</td>
<td>Stenographer-Typist</td>
</tr>
<tr>
<td>Mr. Sims</td>
<td>Invoicing Clerk</td>
</tr>
<tr>
<td>Mrs. Taylor</td>
<td>Typist</td>
</tr>
<tr>
<td>Mr. Evans</td>
<td>Sales Record Clerk</td>
</tr>
</tbody>
</table>

The instruction phase.—This step of work distribution analysis is carried out systematically and carefully. The Methods and Procedures staff of the company is always careful to help each supervisor and worker to know exactly what the program is and how it may benefit the worker and supervisor.

The Methods and Procedures staff has prepared a booklet entitled "Work Distribution Analysis" that is placed in an
office manual used throughout the company. This carefully planned booklet deals with standard procedures in carrying out work measurement studies, office standard preparation, procedures analysis, method improvement, and other forms of work simplification.

The section pertaining to work distribution analysis deals with the major steps of preparation of the work distribution chart, the benefits of the program, methods of securing the information, and steps in analyzing the chart.

The major appeal to the supervisor is that of benefits forthcoming from determining the existing division of labor. The supervisor is asked to attend a twelve hour course pertaining to work distribution analysis. In this course he is permitted to solve hypothetical cases of work distribution analysis, by charting these cases and engaging in analyzing each chart with the analyst. The supervisor is also permitted to solve hypothetical problems pertaining to relations with the workers in the program. Examples are given of workers who fail to cooperate, workers who "pad" their task lists, and workers who have a difficult time determining their task list information.

The major appeals to the workers are that his duties may be simplified, that he may use his top skill most of the time, and that work can be more fairly distributed. The supervisor is required to explain the program to the workers. However, someone from the Methods staff is on hand at all times to assist him in this program.
Gathering basic information.—Step two in the work distribution analysis program of the AVC Company is the step of gathering the basic information from the worker to be used as task information for the work distribution chart.

In this phase of the analysis the supervisor gathers his employees together and distributes task lists for the employee to fill out. This phase is undertaken after the supervisor has carefully explained the nature and purposes of work distribution analysis. The supervisor allows each of the workers to discuss the nature of his work and the main steps that he accomplishes in their duties. These duties are copied on the task list and compared with a job description that each worker has previously prepared.

A supplementary source of some value in checking this basic information is the use of procedures analysis previously utilized by the supervisor. Some basic procedures have been charted on process charts, and a standard unit time has been determined for each step in the process chart. By use of these process charts it is possible to chart the repetitive steps of clerical work and to establish unit figures for the total operating time. These standards are largely for procedures planning, but the Methods Department should very well use them for checking purposes in work distribution analysis.

After the employee has listed each of his duties and the approximate time for each, and after these have been checked against the available job descriptions and process chart data, the consolidated task lists looked like information shown in Figure 2.
<table>
<thead>
<tr>
<th>NAME: Mr. James</th>
<th>Supervisor—Order Department</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Checking and Filing</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2. Read Mail</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>3. Gives Dictation</td>
<td>20</td>
<td>10</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>4. Separates Duplicate Orders</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5. Proof Reads Correspondence</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6. Phone Calls</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7. Conference with Salesmen</td>
<td>11</td>
<td>18</td>
<td>20</td>
<td>12</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>8. Looks up Filed Material</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>45</td>
<td>44</td>
<td>45</td>
<td>43</td>
<td>44</td>
<td>44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME: Miss Hale</th>
<th>Steno—Typist</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Received Dictation</td>
<td>21</td>
<td>11</td>
<td>13</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>2. Type Correspondence</td>
<td>13</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>3. Form Letters</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4. Types Invoices</td>
<td>8</td>
<td>12</td>
<td>15</td>
<td>8</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>5. Files Invoices</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6. Answer Callers</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7. Types Sales Commission Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49</td>
<td>47</td>
<td>48</td>
<td>49</td>
<td>48</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME: Mr. Sims</th>
<th>Invoice Clerk</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sales Distribution</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2. Compute and Extend Prices</td>
<td>20</td>
<td>18</td>
<td>15</td>
<td>18</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>3. Check Credit File</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4. Prepares Delinquent List</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>5. Type Invoices</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>12</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>6. Phone Calls from Salesmen</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>7. Maintain Invoice Log</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8. File Sales Distribution Cards</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>46</td>
<td>47</td>
<td>49</td>
<td>52</td>
<td>47</td>
<td>47</td>
</tr>
</tbody>
</table>

Fig. 2.—Consolidated Task List Information
<table>
<thead>
<tr>
<th>NAME: Mrs. Taylor</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerk-Typist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Types Invoices</td>
<td>24</td>
<td>18</td>
<td>22</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>2. Files Invoices by Names</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>3. Files Invoice by Number</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. Types Correspondence</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>5. Extends Prices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>41</td>
<td>39</td>
<td>41</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME: Mr. Evans</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Record Clerk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Posts Invoices Salesmen File</td>
<td>25</td>
<td>23</td>
<td>20</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>2. Computing Commission</td>
<td>7</td>
<td>9</td>
<td>6</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>3. Prepares Daily Sales Report</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Prepares Weekly Sales Report</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5. Conference with Sales Department</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Payroll Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>41</td>
<td>41</td>
<td>40</td>
<td>41</td>
</tr>
</tbody>
</table>

Fig. 2.—Continued

The final step in the gathering of this basic information is for the supervisor to review the task lists as they are gathered for a one month period. In this review, he checks the task lists to determine if they are complete and if the time presented is a fair time in light of the number of orders and invoices for that period of time. In this step the supervisor also compares the time listed with standard time requirements, where available, by multiplying the standard unit time by the total number of units for that period.
The remaining step is for the supervisor to determine the most representative work week, to be used in the chart. In most instances the supervisor averages the weekly figures for one month, and the figure determined in this average is used as a representative figure.

**Preparation of the activity classification.**—This step involves consideration of what the department is responsible for. The supervisor must ask himself, "What functions am I required to fulfill?" He can draw upon the Methods Department for help when needed.

This process is basically one of careful review and classification of data in individual task lists by major activities. However, the supervisor has a functional chart in his organizational manual which simplified this a great deal. In the manual it states that he should be responsible for receiving, clearing, and preparing invoices on all orders mailed to the company. Mr. James then made the following breakdown of activities:

1. Invoicing Customers
2. Keeping Necessary Records
3. Correspondence
4. Sales Distribution for Salesmen
5. Coordination and Conferences
6. Miscellaneous

**Preparation of the work distribution chart.**—The next step in work distribution analysis is to chart the existing distribution of work. This chart is shown in Figure 3.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Home</th>
<th>Mr. James Supervisor</th>
<th>Miss Hale Steno-Typist</th>
<th>Mr. Sims Invoice Clerk</th>
<th>Mrs. Taylor Typist</th>
<th>Mr. Evans Sales Rec'd</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INVOICING CUSTOMERS</strong></td>
<td>71</td>
<td>Look up invoices</td>
<td>1 Type invoices</td>
<td>11 Compute prices</td>
<td>17 Type invoices</td>
<td>20 Extend prices</td>
<td>141</td>
</tr>
<tr>
<td><strong>INVOICE RECORDS AND FILING</strong></td>
<td>26</td>
<td>Check files</td>
<td>2 Files invoices</td>
<td>3 Sales distribution</td>
<td>6 Files invoices</td>
<td></td>
<td>70</td>
</tr>
<tr>
<td><strong>CORRESPONDENCE</strong></td>
<td>51</td>
<td>Reads mail</td>
<td>6 Dictation</td>
<td>15 Type correspondence</td>
<td></td>
<td></td>
<td>117</td>
</tr>
<tr>
<td><strong>SALES DISTRIBUTION</strong></td>
<td>38</td>
<td>Type sales report</td>
<td>2 Answer inquiry</td>
<td>3</td>
<td>Post to salesmen 20</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td><strong>COORDINATION AND CONFERENCES</strong></td>
<td>23</td>
<td>Conferences</td>
<td>15 Answer inquiry</td>
<td>3</td>
<td>Conference Sales Dept</td>
<td></td>
<td>45</td>
</tr>
<tr>
<td><strong>MISCELLANEOUS</strong></td>
<td>9</td>
<td>Phone calls</td>
<td>2</td>
<td>Check credit notices on 2</td>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>221</td>
<td></td>
<td>44</td>
<td>48</td>
<td>47</td>
<td>41</td>
<td>141</td>
</tr>
</tbody>
</table>

Fig. 3.—Current Work Distribution Chart
The supervisor, with the analyst advising, copies the activity classification on the left side of the chart. Then, the supervisor takes the task lists that the employees gave him and lists these in the other columns of the chart. This is done by placing each employee's name and job title in the columns, and then listing the tasks of the employees according to the appropriate activity at the left, along with the hours decided upon by the supervisor and employee.

The remaining step is to add across the chart and to determine the total time for each activity, and then to add down the columns to determine each employee's total working time. The analyst and the supervisor can now analyze the chart.

Analysis of the chart.—The analysis of the work distribution chart of the Order Department of the AVC Company was undertaken by the supervisor with the analyst asking penetrating questions to aid him. The questions that the analyst had prepared were those in the booklet on work distribution analysis, available to the supervisor and the workers.

These questions are divided into the following major sections: (1) The activity audit, (2) Review of individual activities, (3) Analysis of individual tasks.

The activity audit.—The analyst in this step wishes to look at all of the activities as a whole and to determine certain things about them. The following questions are asked by the analyst:

"Are the activities being performed all necessary to the company?" Yes, apparently everything that is being done
is necessary. There appears to be a minimum of work that is not vital to carrying out the objectives of the company.

"Is there any misdirected effort?" Yes, there appears to be some. A great deal of time is spent coordinating with the Sales Department. Perhaps the activity of Salesmen Distribution should be logically transferred to the Sales Department, even though it has always been in the Order Department.

"Which are the most important activities?" In this case the most important activities should be expediting invoices, and keeping adequate records, and control over them. Any other activities are secondary, even though necessary. This should be kept in mind as the analysis progresses.

The next step in the activity audit is to look at the hours necessary for accomplishing each of the activities.

"Which activities take the most time?" The two most time consuming activities are "Invoicing Customers," and "Correspondence."

"Is this logical?" No, it appears that the unit is spending quite a lot of time doing a secondary activity, "Correspondence." The analyst and the supervisor should analyze the nature of the correspondence and determine if all of it is necessary. Then, they should determine the best method to carry out the activity.
"What are the minor activities?" From the chart it would appear that the minor activities are "Sales Distribution" and "Coordination and Conferences."

"Can any activity be eliminated, combined, or removed to some other department?" Yes, perhaps the activity of "Sales Distribution" should be removed to the sales force. The activity has always been in the Order Department, but the most logical place for it would appear to be in the Sales Department, where the actual sales policies are made. At least, the matter should be discussed in a joint conference with the Sales Manager. The person presently doing the work could be transferred to that department.

**The activity review.**—In considering this phase of analysis the analyst looks at each individual activity, reading from left to right to get in mind what the activity consists of and the steps in completing it.

"Is everything that is necessary to complete the activity assigned to some person or group of persons?" Yes, it would seem so.

"What are the major portions of each activity, and are they logical?" The chart shows a total of 41 hours being spent on typing of invoices. This may be an excessive amount of time. The analyst should carefully determine how many invoices are being typed and determine some sort of a standard, based upon previous procedures analysis, to determine if the
total time listed is logical. He should also consider
the possibility of utilizing some mechanical aid in this
part of the activity, perhaps an electric typewriter or
billing machine. Each of the other steps in the activity
should be examined in the same manner.

"How are the skills of the employees being used?" It
appears that there is a great deal of duplication of effort.
Too many employees are doing the same work. Three employees
are doing the typing and filing. Mr. James is performing
two tasks that should be delegated to others, "looking up
filed invoices" and "separating orders." Mr. Sims is
spending a great deal of time on typing invoices, a skill
which is probably below his salary level. The typing might
be done by one employee who could become quite proficient
at this. Filing and computing could perhaps be assigned to
one individual also.

Analysis of individual tasks.—In this step of analysis
the analyst goes down the list of the employees' tasks as
they are recorded on the chart and asks the following:

"How much time is being spent on the tasks?" The
analyst notices particularly the entry for Mr. James "con-
ferences with Sales Department—15 hours," as Mr. James
is not the logical person for this task. Also, "giving
dictation"; perhaps the correspondence should be carefully
examined and certain letters could be drafted in form letters
and thus relieve this situation.
For Miss Hale, the 15 hours for "receiving dictation" appears excessive. The unit has spent a total of 29 hours on this task. The introduction of a dictating machine could cut this to approximately 12 hours if Mr. James could give this dictation at his leisure time.

"Are employees doing too many unrelated tasks?" Yes, especially Miss Hale, Mr. Sims, and Mrs. Taylor. Miss Hale should not be required to type or file invoices. Mr. Sims appears to be the office "jack-of-all-trades." He should perhaps be required to do only those tasks which directly have to do with computing and not be required to work below his skill level by filing and preparing an invoice log.

"Does the work appear to be spread evenly?" No, some of the employees list a full 48 hour week while others apparently seem to list only about 40. Those who have listed the full 48 hours should be carefully examined to determine if there has been any "padding." Those listing only the 40 hours should be examined to see if they have omitted any tasks or if their time is too low on individual tasks.

There should probably be some shifting of work with the elimination of some and the combination of others. It does appear that the activity "Coordination and Conferences" could be eliminated.

Installing improvements.—The first step in installing improvements is for the analyst and the supervisor to make a new work distribution chart utilizing the improvements suggested. This new chart is shown in Figure 4.
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
<th>Mr. James Supervisor</th>
<th>HOURS</th>
<th>Miss Hale Steno-Typist</th>
<th>HOURS</th>
<th>Mr. Sims Invoice Clerk</th>
<th>HOURS</th>
<th>Mrs. Taylor Typist</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INVOICING CUSTOMERS</td>
<td>81</td>
<td>Supervision</td>
<td>10</td>
<td></td>
<td></td>
<td>Computing prices</td>
<td>17</td>
<td>Typing invoices</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extending prices</td>
<td></td>
<td></td>
<td>11</td>
<td>Separate orders</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Looking up invoices</td>
<td>1</td>
</tr>
<tr>
<td>INVOICE RECORDS AND FILING</td>
<td>38</td>
<td>Check files Supervision</td>
<td>2</td>
<td>Logs and files invoices</td>
<td>8</td>
<td>Answer inquires</td>
<td>15</td>
<td>Files sales distribution cards</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sales Distribution</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>CORRESPONDENCE</td>
<td>54</td>
<td>Reads mail Dictation</td>
<td>6</td>
<td>Dictation</td>
<td>14</td>
<td>Types correspondence</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check correspondence</td>
<td>3</td>
<td>Form letters</td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MISCELLANEOUS</td>
<td>6</td>
<td>Phone calls</td>
<td>2</td>
<td></td>
<td></td>
<td>Check credit Affixes delinquent notices</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>179</td>
<td>45</td>
<td>16</td>
<td>12</td>
<td></td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 4.—Proposed Work Distribution Chart
Such an apparent improvement as the removal of the "sales distribution" activity could not very likely be contested by any one. It is easily seen that the 23 hours of coordinating and conferences that were necessary before would not now be necessary, by removing the activity to its logical place.

Still other improvements are possible. By mechanizing the invoicing and dictating activities, probably another 20 hours may be saved. Further methods improvement may be justified for these activities, now that they have been put in one person's responsibility.

Installation of the proposed improvements will involve making certain shifts in the responsibilities of personnel. All such changes will involve the utmost of tact on the part of the supervisor. In their favor, however, will ordinarily be some decided advantages to all concerned.

Conclusion and Recommendations

The need for sharper tools in work distribution analysis is apparent. With more accurate information, the analyst and the supervisor would have a device capable of paying great dividends. Also, it seems highly desirable for the methods and procedures departments of the companies to outline carefully a standard operating procedure for work distribution analysis. This can serve as a uniform or standard approach which will achieve the results that are needed.
Careful analysis of the relations between workers and supervisors should also be a prime consideration of the staff agencies. By incorporating the method in manuals and pamphlets and by conferences skilfully handled, the analyst can overcome in advance many of the differences that he is likely to meet.

Standard work units and work count are also important requisites of a scientific work distribution program. In the gathering of the task information, the job of the supervisor and the job of the analyst will thereby be made much easier, and usable accuracy can be virtually assured if a check can be made on the large and important tasks which the employee shows on his task list. Procedures analysis is also a very important aid to the analyst, particularly if he can also use office standards in connection with it.

Accurate job descriptions also can be quite valuable to the work distribution analyst, and perhaps should be put to greater use. They can show the analyst immediately the principal duties of each job, and can throw light on the feasibility of proposed changes in tasks.

The problem of finding a representative work week seems to need more careful attention. The answer may lie in use of an improved type of average or in preparation of two or more work distribution patterns which would be standard for different levels of volume.
It is apparent that much improvement in this new management tool is still possible. But as further experience is accumulated and shared, and as related fields can be drawn upon increasingly, such improvement may be predicted with assurance.
APPENDIX

QUESTIONNAIRE ON WORK DISTRIBUTION ANALYSIS

1. Please indicate below if your company has used work distribution analysis at some time:
   ______ Now use regularly. ______ Have tried but discontinued
   ______ Have never tried

   Note: If you have never used this type of analysis please disregard the remaining questions.

2. In most organizations using work distribution charts, several people participate in their preparation and use. These usually include some combination of outside consultants, own methods staff, supervisors, and workers. Please indicate the type of persons or combination of persons who:

   A. Instituted this type of analysis in the beginning ______

   B. Trains supervisors in the use of basic approach ______

   C. Obtains basic data on workers tasks ________________________

   D. Determines activity classifications ___________________________

   E. Makes work distribution chart itself _________________________

   F. Interprets results and decides on improvements _______________

3. Describe which attitude characterizes your supervisors' reception to work distribution analysis:

   ______ Interested and enthusiastic. ______ Inclined to resent.

   ______ Cooperate without enthusiasm. ______ Decidedly antagonistic.

   Describe which attitude characterizes your workers' reception to work distribution analysis:

   ______ Interested and enthusiastic. ______ Inclined to resent.

   ______ Cooperate without enthusiasm. ______ Decidedly antagonistic.

4. In the preparation of the task lists of the employees, please indicate how this information is secured:

   ______ Employee lists his tasks and approximates time for tasks.

   ______ Employee is observed and exact time is recorded for tasks.

   ______ Other sources are used to obtain this information.
3. If other sources are used please indicate which of these are used:
   ___ Time study for other purposes. ___ Work measurement data
   ___ Procedures Analysis. ___ Job descriptions.
   ___ Others: ____________________________

5. In the preparation of the classification of broad activities in a section or department what source is used?
   ___ Judgment of supervisor. ___ Combined judgment of each
   ___ Judgment of analyst. ___ Other sources.

   If other sources are used please indicate which of these are used:
   ___ Organizational Charts. ___ Functional Charts.
   ___ Organizational Manuals. ___ Others

6. Please indicate which method is used for determining an acceptable or representative work week in securing basic data on employees tasks:
   ___ The first week that figures are obtained for is used.
   ___ A week is used that is thought average by the worker or supervisor.
   ___ Several weeks are used and a typical week is selected.
   ___ Several weeks are used and are averaged arithmetically.
   ___ Two or more patterns are established — perhaps one for a normal week and one for a heavy week.
   ___ Others: ____________________________

If you would be so kind as to send any readily available material that would illustrate certain of your own practices in work distribution analysis, this would be appreciated greatly. Especially helpful would be chart forms, instructions for analysts and supervisors on use and interpretation, sample solutions used in training and similar materials.

If you desire a tabulation of the results of this study, please give name, company, and address ____________________________

THANK YOU
Attention: Methods and Procedures Department

Dear Sirs:

In connection with my graduate studies at North Texas State College, Denton, Texas, I have chosen for a thesis subject, "A Scientific Method of Work Distribution Analysis."

The technique of work distribution charting and analysis has proven to be a very valuable device in many organizations. Traditional methods, while helpful, leave much to be desired, however. It is the purpose of this research study to determine possible improvements where needed, and to present a basic approach which any firm might find to be useful.

As a portion of this investigation, a questionnaire is being sent to a short, select group of companies. Your organization has a reputation for progressiveness in the field of office methods, and your participation would be greatly appreciated.

A tabulation of practices followed in similar organizations will be sent to you if you desire it. For your convenience a return envelope is enclosed.

Very truly yours,

Bobby M. Simpson
BIBLIOGRAPHY

Books


Articles


Green, Herbert E., "Let's Have Less Experting," Office Executive, XXVI, (June, 1951), 12.


