PAPERWORK SIMPLIFICATION

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Paperwork simplification is a broad, rather indefinite and perhaps anomalous subject. An axiom, attributed to "Boss" Kettering of Dayton, "A problem well defined is half solved" seems to be particularly applicable to such a subject. Perhaps by breaking down our subject into parts, defining those parts, we can develop an understanding of our problem, what to do about it and what we may expect in the way of results.

Simplifying paperwork requires, first, an understanding of Paperwork and then the "what to do about it" Work Simplification. It is not surprising that we find in breaking our subject into two major components, that "work" is a part of the problem and the solution. There is no short cut or easy road to success. Work always has been and always will be the foundation of a successful business or an ever-improving standard of living such as we have in our country.

WHAT IS PAPERWORK?

Paperwork might be defined in many ways, but for our purposes I think it can be defined most effectively in terms of the purposes or end results to be accomplished. Paperwork includes the recording, transmission, analysis, distribution and storage of facts for two major purposes. First, our various units of government tell us that if we want to stay in business, we must file various reports such as income tax, social security, unemployment insurance and others. To meet these requirements and stay in business, we must have facts. Fortunately, the facts required for this purpose also serve our second purpose as well, and may be measured in terms of the second purpose. The second purpose of paperwork is to provide "people" with facts which will help them do their job better. In the past, I have described the second purpose as - to help Management manage better. However, I have seen many workers continually exhorted to increase production, improve quality and reduce costs, thoroughly confused because they had no guidepost or measuring stick to go by. They did not have the facts as to their past performance, their current performance or the goals to shoot at. Because of this, it seems to me that providing this information to the people on the job who, in reality, are the only ones who can control production, quality or cost, is almost as important a function of paperwork as providing Management with the facts which it needs 1n order to make sound decisions. While no report ever increased production, improved quality or cut costs, the paperwork as the medium for transmitting the right information to the people who can control these functions directly, is vital to your function as controller.

WHY SIMPLIFY?

Paperwork has never added anything to the value of a product or service. As a non-productive function of business, it has been considered in many cases as a necessary evil. Until recent years, it has been a relatively small part of the over-all operation. Unfortunately, it has been allowed to grow "like Topsy" until countless duplications and inefficiencies of large proportions have crept in. In many organizations, when difficulties arose in production or in making decisions, a new report or procedure was added to meet the situation. The situation was met, the individual satisfied, but little was done to coordinate that procedure with others already in existence.

The growth of paperwork is illustrated by figures taken from Bureau of Census reports. These show that in 1900 there was one clerical worker to each 10 productive workers. In 1940 this ratio had changed to 1 to 4. In other words, the number of clerical workers had grown 2-1/2 times as fast as the number of productive workers. While the production man will attempt to explain that change on the basis of improved methods in the factory, and the office man on the basis of increased Governmental reports requirements (both of whom are partially right), neither of these explanations begins to account for the tremendous elements of waste found in the paperwork of many organizations.

If we will apply the measuring rod provided by our definition of paperwork to existing paperwork, "does the system or result help someone perform his job better, " I believe we will find that from 30% to 50% of the paperwork in the average organization will not meet the requirements and, in all probability, should be eliminated.

Much has been done by office equipment companies in the development of machines to perform many of the paperwork functions more rapidly and more accurately. However, too often, machines have been used to mechanize old

procedures without taking full advantage of the mechanical abilities of the equipment by revising the procedure to fit the equipment.

An excellent illustration of waste that can develop in our paperwork was presented during the question and answer period following one of my recent talks. The program chairman who was chief accountant and methods man for a large branch office organization asked the question "How would you eliminate some of the non-essential, but expensive, reports?" I suggested that withholding the report had demonstrated in some cases the lack of value of the report. The program chairman replied that he was glad I had answered the question in that way because -and then related the following story.

"Two years ago I questioned an elaborate tabulated report which I distributed to 31 of our top executives all over the country. I called on each executive, asked whether or not the report was essential, whether I could add to, take away from, or rearrange it in any way to improve it. All the executives insisted that the report was perfect as it was and that they could not possibly get along without it." "The next month I prepared the report, but filed all copies in my desk and not a single question was asked. I continued to prepare the report and keep all the copies for six months. When still no question had been asked, I discontinued preparing the report. That was over two years ago and to date I have not had a question about that report."

The amazing part of this story is that this accountant could remind all 37 executives that they were getting the report, withhold it the next month and still not have a question asked. Obviously, that report must have been tremendously important to those top executives in the conduct of their jobs!

While this is only one illustration of the type of work that does exist in the paperwork of the average company, I am sure all of us would find this and other types of waste in our own paperwork if we would examine it critically and impartially.

While the waste in our paperwork is substantial in the average organization, this is not nearly as serious as the waste traceable indirectly to our paperwork. Inadequate or inaccurate paperwork is directly accountable for tremendous waste in many functions of business. An experience with one of our large tank factories provides an excellent example of this type of waste.

While manufacturing under one of the contracts for tanks, this plant came close to having to shut down a tremendously expensive assembly line for lack of parts. When they checked their records, they found the parts had been ordered on time. Vendors insisted they had been shipped. But the parts could not be found. Emergency shipments by truck and by air, a very expensive procedure with tank parts, bridged the gap. At the close of the contract, the Management of this plant decided to do something about it.

First, they took a physical inventory of their entire lot covering some eight or nine hundred acres. They brought together, in one place, all the parts they could find in any of the hundred-odd buildings or sheds. When they finished, they had literally acres of parts.

During my work with them, they pointed out to me one stack of 15,000 bogie whee1 rims which they found stored in one of the remote sheds. A check disclosed that these had been received on time, but because of the location of the storage had not been found when they were needed for assembly. Alongside this pile was another pile of 5,000 rubber tank treads, a critical item, which, temporarily lost, had caused a great deal of trouble. These, too, had been received on time but couldn't be found when needed.

The right kind of paperwork would have told them when they needed the information, not only that the materials had been ordered and received, but where they were stored and would have eliminated tremendously expensive rush deliveries. The situation was corrected, while the volume of paperwork was reduced before the next contract started.

While this example was taken from wartime experience, I can assure you that many similar illustrations, although perhaps not quite as spectacular, can be taken from current operations in connection with production, quality, costs, inventories, purchasing and shipping.

WHAT CAN WE DO ABOUT THESE ELEMENTS OF WASTE?

Now that we have paperwork, Our problems of eliminating the waste in our present paperwork and the more far reaching waste in the other functions of business due to lack of the proper kind of paperwork defined, what is the best approach to eliminate the elements of waste?

This brings us to the second part of our title, Work Simplification, again emphasizing the importance of "work". It is defined in simple terms as "The organized application of common sense to find better and easier ways of doing a job" or, as I prefer, "The organized application of common sense to eliminate waste of any kind -waste time, energy, space, material, equipment, etc." "Eliminate waste" implies getting results, not just talking about it. Results come from better methods only when these methods are used enthusiastically by the people concerned. For years, the "enthusiastic use by the people concerned" was the reef on which the "better methods" foundered. About 15 years ago several of the leaders in the field of scientific management, Allan Mogensen, Professor Erwin H. Schell of Massachusetts Institute of Technology, Dr. Lillian Gilbreth and Professor David B. Porter of New York University, recognizing the importance of enthusiastic cooperation, combined the simple fundamentals of the technique of motion study with a way of thinking or philosophy of management and called it Work Simplification. Having repeatedly developed and installed better methods only to return a few months later and find the people on the job had reverted to their old methods, these pioneers recognized the problem involved in developing acceptance of the better methods. The problem involved the most difficult and highest type of selling, the selling of an idea or an intangible. People buy what they want rather than what is good for them or what they need.

The first and most important problem then is to convince the individual worker that he has a direct personal stake in eliminating every possible element of waste. Too often the expert mistakenly calls his activity "Work Simplification." In many cases anticipated results are not achieved because of the seeming lack of appreciation of the importance of enthusiastic cooperation on the part of every individual.

WHY DO PEOPLE NOT ACCEPT BETTER METHODS?

It is impossible in a few minutes to cover all the reasons back of lack of acceptance of better methods. I will touch on a few that I believe are particularly important.

First, I am convinced that a lack of understanding of the simple fundamentals of our "Free Enterprise" system or the "American Way" is the cause of much of our trouble. We in America have achieved our present standard of living, by far the highest in the world from a material standpoint, only through a continual expansion of our business and industry stimulated by the courage, ingenuity and initiative of individuals working together. Only production and more production can continue to maintain and improve this standard of living. In spite of temporary, sometimes severe, setbacks due to contraction of production, our National economy and the standard of living of each individual has continued to improve over the years.

In 1928 and 1929, a period of supreme optimism, the National income was less than 90 billion dollars. Had anyone at that time had the temerity to suggest that in 20 years our National income would, even with a decreased or cheaper dollar, exceed 220 billion dollars, he would have been ridiculed. However, it "Did happen here," and in spite of the cheaper dollar, more people enjoy automobiles, radios, television sets, milk, eggs, meat and the other things that contribute to better living. The increased production of better products at a relatively lower cost has been the solution. Today's Chevrolet at about the same dollar price as the 1929 Buick is far superior in appearance, comfort and performance.

To maintain this trend requires a continual increase in productivity to develop lower unit cost in spite of high labor and material. The individual must be convinced that this is so before he will tackle a job enthusiastically and exercise the direct control over production costs and quality that only the man on the job is capable of. We have just begun to realize the importance of a thorough understanding of these facts in the development of enthusiastic teamwork.

In the meantime, Union leaders have been doing an excellent job of selling a point of view calculated to maintain their position. We have a whale of a selling job to do to counteract this and the growing trend toward surrendering initiative and freedom to Government in exchange for hopeless promises.

Another reason why better methods have not always been accepted is, I believe, because many people in Management have felt that the techniques of scientific management are pure science, that they will produce the one right answer to the problem. By scientific management techniques, I mean personnel selection, job evaluation, method study, time study, wage incentives and others, even accounting and cost accounting. While all of these techniques are excellent guides to better judgment when intelligently used, none of them produce the one right infallible answer.

Accounting and cost accounting, based largely on mathematics, shou1d come as close as any of the techniques to producing the one right answer. However, if we will examine the various theories for depreciating capital assets, valuing inventories or any of the other controversial accounting subjects, we will find that by substituting one extreme

method for the other we can frequently change a highly profitable operation to one that seems thoroughly bankrupt without altering the facts of the picture at all.

An excellent illustration of the vulnerability of the position of the individual who maintains that his technique is infallible is a story told of setting standards in a shoe factory. The job involved gluing the bottom of a partly finished upper, affixing the Bole and getting rid of the finished operation. The work place, equipment and method had been studied thoroughly. An endless belt was set up to bring partly finished uppers in front of all the operators. Each operator had his glue pot, brush and stack of soles. Physical conditions limited the possibilities for providing a mechanical means to get rid of the finished operation. The best practical solution was an over-head chain conveyor with hooks running in back of the workers.

The operation setup then followed this pattern. The worker took the partly finished upper from the belt, glued the bottom, attached the sole and turned around to hang it on the hook behind him. All the operators were trained in the new method. When sufficient skill had been acquired the job was time studied and standards were set. The standards were installed on the basis that an average operator doing a good day's work would make about 120% of standard. Reports the first day showed that all the operators had made about 120% except one operator who made over 200%. This continued for several days.

The Standards Department restudied this particular operator. When they analyzed their figures they found they came out right on the nose and that day the operator earned 120%. However, the following day his earnings jumped up to over 200%. After several days of better than 200% earnings one of the time study men pulled a trick that has been known to be pulled in the past. He hid behind a post and watched the operation. This particular operator was picking up the upper, gluing the bottom, putting the sole on and tossing it over his shoulder. And he never missed the hook!

An investigation of this operator's background disclosed he was a circus juggler out of work. The problem then resolved itself as to whether they should rate this as a circus juggler's job or a shoemaker's job.

None of these techniques is perfect, but every one of them is an excellent guide to better judgment when properly understood and intelligently used. Any representation that these techniques are perfect is vulnerable and tends to destroy basic confidence.

Another factor which interferes with the enthusiastic acceptance of better methods is the lack of appreciation as to what motivates people in their work, what makes them tick. Resistance to change is often cited as the normal and natural reaction of individuals to something new and an important cause of failure to accept better methods. The reactions of a dog to certain stimuli are commonly used to illustrate this resistance to change. If you have a dog, when you find him sitting in front of the fireplace, take hold of his collar, pull and watch the reaction. You know just as well as I do that he will dig in and resist the change. You may think you are using the wrong method, so go around behind him and give him a push. Again he will resist. These reactions to both approaches are used to establish that resistance to change is natural.

However, if we are going to solve problems, we must get at causes not effects. If we treat this so-called resistance to change as a cause we are, in my opinion, no more treating the cause than we would be if we put a bucket on the living room rug to keep it dry when we had a leak upstairs in the bath-room. When you get through pushing and pulling the dog and go over to sit down in your easy chair, the odds are a thousand to one he will follow right behind you wagging his tail. He was not resisting change at all. But, he was resisting being pushed and pulled around. It is normal and natural to resist being bossed or pushed around. This is one of the basic causes behind the so-called resistance to change.

Another fundamental cause is fear of the unknown, fear of things we do not understand which are involved in changes, especially if the reasons for the change as well as the probable consequences of the change are not thoroughly understood. Fear for the security of the job or fear that through better methods and enthusiastic cooperation the individual might work himself out of a job is a very real cause back of this so-called resistance to change.

Resentment of criticism has been stated as another reason for people not accepting better methods. When we expert the job we certainly are, at least indirectly, criticizing the person who has used the old method. People do resent even an implied criticism.

On the other hand you probably play bridge. I do when I can't get out of it. You may have been in the situation that I have been in, playing bridge with my wife as my partner. We bid a game, and I had to play it. I failed to take a finesse, went down one trick, and when I finished remarked, "If I had only taken that finesse, I would have made the game." That is perfectly all right. I don't mind one bit how much I criticize me! However, a few hands later the same situation

arose, we bid the game and again I had to play it. I didn't take the finesse, went down a trick, but before I had an opportunity to open my mouth my wife said, "If you had only taken that finesse we would have made the game." What was my reaction then? I proved emphatically that if I had taken the finesse and it had failed we would have gone down two tricks instead of one. We will criticize ourselves until h--- freezes over, but we do thoroughly resent criticism from anyone else.

So much for the negative factors in developing acceptance of better methods. What positive approach can be taken to counteract these and stimulate enthusiastic cooperation?

We can substitute mutual understanding and confidence for fear. One method used to achieve this by The Standard Register Company, has been to lay the cards on the table -explain where the money goes, the problems involved in the company's operation, and the opportunity far each individual to help meet these problems. When Mr. Spayd, our president, explains to his co-workers in the factory and office that, in spite of the fact that hourly wages are more than 2 ½ times the rate of ten years ago and material is over twice the cost in 1939, our sales price to the customer has increased only by 1/3, they begin to understand and appreciate the importance of eliminating waste of every kind in order to help the company continue to grow and provide jobs.

Another positive approach to the problem is to provide satisfaction in the job for the strong desire of the average American worker far self-expression, achievement and recognition. This has been complicated by two developments over the past 50 years. In industry, the development of mass production has resulted in deskilling many jobs to the point where none of these desires can be satisfied on many of the available jobs. This deskilling activity was greatly accelerated during the last war.

On the other hand our educational system has been tremendously expanded, stimulating the interest and initiative and ambition of our young people. The facts, from Bureau of Census figures, reveal that in 1900 12% of our young people of high school age went to high school. In 1940 this percentage had increased 70%. In 1900 4% of our young people of college age went to college. In 1940 this was increased to 14%. Since 1940 our colleges have about doubled in size, bringing this percentage to an estimated 25% to 30% of our young people.

The combination of the growth of mass production, resulting in the change

From interesting craftsmen's jobs to the deskilled routine jobs and the desire of our young people for an opportunity for se1f-expression, achievement and recognition stimulated by more education, has conspired to force many of our young people to look for outlets for their interest and enthusiasm outside their jobs.

Work Simplification - An Answer

Work Simplification, when properly used, has demonstrated its effective-ness as one of the best answers to the problem. When started at the top, it will grow down through an organization building confidence -to replace fear. It eliminates the resentment of criticism and develops leadership as a substitute for drivership. In growing down through the organization, it breaks down levels of insulation which have developed in many places. When it reaches the worker level, it releases the pent-up enthusiasm of the average individual by provid1ng a challenge and the necessary job interest.

Let's look briefly at the simple principles of Work Simplification.

The first principle is: "Activities should be Productive." By "Activity" we mean anything that goes on in business, including delays, storages, as well as the various operations and moves in a procedure. Since paperwork is entirely a non-productive function of business, it is necessary to stretch the meaning of the word "productive" when we apply these principles to paperwork. However, the end results of paperwork are essential to the best conduct of the business. If we define productivity as directly accomplishing the end results, we can apply the term to paperwork.

The typing of a 3-part letter, an original and two copies, will illustrate the point. Assembling three sheets of paper and two sheets of carbon, jogging them into alignment, inserting them in the machine, positioning them in the machine, removing and separating them after the typing operation, are all non-productive. The only productive part of the operation is the actual typing when the information is put on the paper. Long moves from desk to desk and delays on the desk are non-productive elements in paperwork procedure. The first objective then is to reduce the non-productive elements in our paperwork to an absolute minimum.

The second principle is: "Activity should be arranged to provide smooth flow From operation to operation in a process or a balanced motion pattern for an operator at a work place." Each of you knows how discouraging an unduly heavy

workload can be to the average worker. Worrying about getting the work out distracts attention from the job at hand and blows up the actual production tremendously.

On the other hand, the average person is much happier when busy than when looking for work. This was illustrated very forcefully by an experience in the invoicing department in a large corporation. Application of Work Simplification, particularly the first principle, had cut the workload in half in the Typing Department. The typists, who should have been released by this reduction in work, were badly needed in another department. However, the supervisor, accustomed to being measured by an all too common standard of how many people he supervised rather than by the effectiveness of his activity measured in results produced and cost per unit, could only see his empire being cut in half. Until he had been sold by his top management that he would be measured on the basis of results and cost, he did nothing about releasing any of his surplus typists. In the meantime, the typists, not knowing that there were positions available on the same or a higher level, were afraid that some of their group would be worked out of a job. They stretched out the work to appear busy. Quality fell off, discord crept in, till the department was thoroughly disorganized. When, finally, half the girls were transferred to other work, production more than doubled, quality rose to its highest level, and all the girls, honestly busy, were much happier in their work. Smooth flow or balance is important especially in paperwork.

The third principle is: "Activity should be as simple as possible." In examining countless paperwork systems in business and industry, I have been re-minded of Rube Goldberg's cartoons illustrating extremely complex and involved ways of accomplishing very simple results.

The study of a receiving system in an industrial plant illustrates how paperwork simplification and the application of our third principle not only eliminates waste from our paperwork, improves production and quality, but facilitates the elimination of many elements of waste in productive functions. The purpose or objective of the system was to provide facts regarding thou-sands of items received, to aid in the control of the quantity and quality of materials received, facilitate the storage and prompt availabi1ity of the materials to the proper production department, relieve procurement of further responsibi1ity, enable accounts receivable to pay for the materials and help the cost and other departments to carry out their functions. The old system, which had grown up over the years to meet varying requirements, included three separate forms which had to be written for each shipment involving seven copies all together, and a 10-copy summary of all shipments received which was used to advise the interested parties. Because the information had to be written four times, there were many errors in transcription and long delays before the final 10-part summary could be completed. The laboratory, which was supposed to control the quality of many of the items received, frequently did not receive its copy of the summary report until the items were already being used. In many cases, department heads had to search through 30 or 40 items on the summary sheet to find whether or not the one item in which they were interested had been received. In the various accounting departments, the use of the summary report added substantially to their work and severely handicapped their functioning.

A simple eight-part form completed immediately after the receipt of the shipment eliminated rewriting the information three times with the three opportunities for transcription errors, advised all interested parties promptly as to the receipt of each shipment, enabled the laboratory to test required items for quality before they had been used, and saved many hours of unnecessary work in purchasing, production and accounting departments.

As in this case, it is almost invariably true that simplification through elimination of waste improves not only production but quality as well. These three principles covering the technique of work simplification are Simple enough to be understood and used by the average person to measure the effectiveness of almost any work activity. These principles, and the technique, are, as can be seen, a simplified version of motion study. Contrary to many mistaken concepts, motion study as conceived by the Gilbreths, is not limited to the activity of an individual at a work place. One of the most important tools of motion study, developed by Frank Gilbreth, is the Flow-Process chart, a simple device for visualizing and measuring, chronologically, every detail in an over-all process or procedure. It is, in reality, the "steam-shovel" approach to the elimination of waste as compared with the "hand-shovel" or "teaspoon" approach used in examining the individual operation. Each of the so-called laws, or methods, of making motion study effective, may be classified under one of the three principles.

As usual, we have devoted three principles to the mechanics and only one to the important part of Work Simplification -the human side. The emphasis must be in the opposite ratio. The human relation aspect is at least 75% of the job in Work Simplification.

Our last and, by far, most important principle is: "the individual produces most effectively in terms of quantity, quality and cost only when personal satisfaction is derived from the job." Before "personal satisfaction" can play a part, fear must be replaced by mutual understanding and confidence. Understanding and confidence must permeate the

organization from top to bottom. When this situation exists, participation in the elimination of waste will be carried on enthusiastically and will provide the opportunity for self-expression, accomplishment and recognition, provide job interest and develop enthusiastic cooperation. The individual, equipped with the technique and tools to eliminate waste and make improvements, has a tremendous satisfaction in initiating changes and developing better methods.

The change in attitude, the effective teamwork resulting from participation is well expressed as, “The difference between enthusiastic cooperation and dignified acquiescence.”

Is Work Simplification Effective?

Proof of the pudding is, of course, in the eating. The best answer to the question, “Is work simplification effective?” is to consider results achieved.

One large company carried work simplification training down through its various levels of supervision. Its people were taught the use of the principles and the simple tools of work simplification - the flow process chart, the flow diagram and the five-step analysis pattern. The flow diagram is a scale layout of the work area with the flow of work within the area shown by various line patterns. The five-step pattern is a simple, logical approach to the analysis of any problem. The steps are:

1. Select or pick a job. Define the problem.
2. Get all the facts. Break the job down.
3. Question each detai1 for possib1e improvements.
4. Develop agreement as to the best way as of right now.
5. Apply the improved method and follow through to evaluate the results and make further improvements.

Expressed in various terms, this is a basic approach used in many fields. Its value lies in the fact that it provides a basically sound, orderly approach.

Work simplification proved sufficiently effective with the supervision to encourage the management of this company to carry the training down to the workers in one division. At the close of a recent twelve-month period the score stood - about five Proposals for Improvements per supervisor trained - more than four times as many or 22 Proposals for Improvement per operator trained. When the workers had an opportunity to express themselves, to say something about their work, create new ideas and be recognized for them, they literally “ran away with the ball.”

In our own plant where participation has been stimulated for more than ten years through the practice of multiple management, work simplification carried down to the operator level is credited with a substantial contribution to a 20% increase in productive capacity.

For those interested in detail regarding the technique and application of paperwork simplification, we have available several booklets on the subject which may be obtained by a phone call to the nearest Standard Register Company office or a letter to the Company in Dayton, Ohio.

Participation, based on mutual understanding and confidence, stimulates an appreciation of personal responsibility by providing the opportunity for self-expression, achievement and recognition.

Paperwork simplification through participation adds interest and the satisfaction of motivating desires to the job, is effective in eliminating waste in paperwork and the waste in other functions of business resulting from in-adequate or inaccurate paperwork and provides control of production, quality and cost at its source, the only real point of control. The immediate result is a better product at a lower real cost. The long-term result is the widespread growth of a feeling of “belonging,” of “being important” to a sound, profitable, growing business which provides the only true, permanent security without a sacrifice of freedom.