

HOW TO CONTROL RED TAPE*

by Masood Hasan
Consultant

DELAYS of one kind or another are making news these days, and how very frustrating it can be. If we are in a position to recognize the symptoms from the disease (delays are an effect not a cause), it is only then possible to effect a meaningful cure. This article identifies the disease as lack of flow of information in the information (communication) networks comprising both large business and government institutions. The problem facing us today, is in identifying what is actually happening, because it is only then that we know where to start from. In fact exposure of the anatomy of information (and hence work-flow) is half the cure itself. If a problem can be well defined it doesn't take but a modicum of commonsense to improve matters.

The System and Procedures approach described below makes possible both a rational O&M and EDP effort not to mention the improvements that come about in the manual way of doing things. Such disciplining or streamlining of systems will automatically throw out most of the red-tape, the 64-dollar question is how? It is easier said than done. The author has had over 20 years experience at all levels in industry/commerce and gives us a powerful management aid to help eliminate the tortuous and circuitous ways of systems and that too without the expenditure of our foreign exchange.

IN the last few years on so many occasions we came across attempts being made, both in the public and private sectors, to reduce delays in the implementation of their work. After the initial furore dies down everyone sits back expecting the miracle to happen. It doesn't. Matters appear to get snarled up more and more. If we could only recognize the symptoms from the disease then it would be possible to bring about an effective cure. The symptoms read somewhat as follows: senior managers are burning the mid-night oil, orders are being consistently taken away by competitors, accounts are not ready in time, expeditors are following up individual cases, the file involved is untraceable, the costing of a job bears no relation to actuals, no one knows what stores has both quantity-wise and value-wise on a particular date, high personnel turnover and so on. But what is the disease? The disease lies in the choking up of the arterial channels of communication causing "coronaries" every so often. If only this arterial-flow could be controlled it would be possible for managers to get the necessary information for purposes of achieving the objectives of the systems they may be running in the most efficient fashion.

The challenge

The challenge that faces most of us today is to draw conclusions and make decisions on the basis of limited information. Because of the time element involved that everything must be done in a hurry, so much has to be done through intuition. There is no complete

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formula for decision-making, the problem of making a decision only arises when we are partially ignorant. If we are partially ignorant we are bound to be somewhat uncertain about the decision. This business of reducing uncertainty can be looked after to a very large extent through streamlining or disciplining, ie getting rid of red tape, of business or governmental systems.

Time is an essential ingredient of the pudding. We are living in an age where things are happening increasingly quickly. It took some 40 years before the motor-car was accepted as a means of conveyance. The aeroplane took 14 years. Television took 10 years before it was used commercially. Atomic energy for peaceful purposes compressed the waiting period to seven years. Earth satellites for communications took up only five years. Beyond any doubt we must increase our speed of reacting beneficially to change brought about through proliferating technology.

In order to grapple with this problem of back-breaking delays effectively it is necessary to understand how it has all come about. And like many other things it requires delving into history. Going back in time, we find prior to 1,700 the philosopher was the repository of knowledge. However, by 1700 he threw in the towel as far as scientific knowledge was concerned and the natural philosopher was born, he was to remain the custodian of all scientific knowledge till around 1850.

At about this time the Universities split up into the Arts and the Sciences and knowledge-winning started getting compartmentalised. The chemist, physicist, biologist came into their own. But what is vitally important to realize is that with the natural philosophers exit vis-à-vis scientific knowledge *the superiority of the scientific method of attack in knowledge acquisition was proved to the hilt*. It is not out of place mention that this is the reason why we have Ph.Ds (Doctors of Philosophy) in Psychology, Nuclear Physics, Agronomy, Economics, Chemistry ... It is an anachronism that we live with! This compartmentalisation brought about around 1900 the birth of the social sciences of psychology, anthropology and sociology. This factoring trend continues to this day.

Whilst the academic side was cutting up the body of knowledge into "manageable" proportions what was happening on the applied or technological side? The answer is that just as knowledge-winning was split up we witness functional fragmentation in commerce, industry, service and administrative systems. What were "one-man" shows started growing larger and larger, the economies of scale became apparent, but the "boss" found he required assistance. The single person looking after purchasing, production, accounts, stores, personnel, advertising, selling, research, scheduling also threw in the towel: functional specialists were born, and more and more continue to be born every day. A few years ago we never heard of nuclear engineers, econometricians, short-interval schedulers, ground-water engineers or operation researchers.

With time administrative systems or organizations started growing faster than their original "planned" size. In order to control, the boss had to delegate authority to his subordinates, this meant the birth of paperwork. We are familiar with Parkinson's dictum that, work expands to fill the time made available for its completion and that size by itself

creates complex problems of co-ordination, which in turn yields fresh paperwork for purposes of control and so on . . . In short it means that because no one was far-sighted enough to have foreseen the results of Parkinson's Laws, no one budgeted for this situation. This not only applies to undeveloped countries but to the developed also. Since World War II matters have grown steadily worse, and it would appear that we in Pakistan will make all the errors committed by the developed countries in our attempts to "rectify" the situation. This business of "ad-hocism" is the bane of our very existence. It is a fact that no manager of a large organization/department really knows what is going on. No one knows how many different forms or returns are in existence. No one knows what use is made of the myriads of carbon copies at each stage or the involved and winding documentation highways. No one can access their records quickly enough, more often than not there is one elderly person who has it all in his head. He knows where the 1952 or 1956 records are! What will happen when he retires is open to speculation. This business of growing like Topsy needs being controlled. The traditional way is to create "ad hoc controls" and that means red tape. How many of us have had to develop a "philosophic" ie resigned attitude towards the delays which appear to be firmly entrenched in the system called organisation.

New techniques

During the last two decades several techniques have been developed to eliminate red-tape. These techniques are covered by the Management Services or Sciences as they are also known as:

1. Work Study (includes Work Measurement and Method Study both of which embrace O&M (Organization & Methods))
2. Systems and Procedures
3. Electronic Data Processing (EDP)
4. Operation or Operational Research (OR)

Now, each of these disciplines covers tremendous ground. However, Work Study goes back a long time but significant developments in it have taken place since World War II. It is up to us to harness these work-horses in such a way that they blend it with our socio-economic pattern. After all that is the only way to expect worth-while results.

It is vitally important to understand that these work-horses are extremely sophisticated and they have to be if they are to unravel the mysteries built-up over the years in the traditional way of doing things. It is said that a donkey understands the language of a donkey. So it is with complexity (brought about through size), it requires techniques which can match it at all levels in whatever posture one may find it.

When we talk of sophisticated technology. It is important to understand that borrowed "capabilities" are strictly limited in its utility. It is with complexity (brought about through size) that requires techniques which can match it at all levels in whatever posture we may find it. Absence of applicative experience makes us armchair intellectuals which strictly limits the forward view, in particular the ability to build up a reservoir of

indigenous knowledge (that is what matters) and equally important, its methodology of application. Technological dependence through continual borrowing ultimately leads to economic dependence as well.

Let us, therefore, very carefully examine what is going on elsewhere, this involves a considerable amount of inconvenience in the form of deliberative thinking. We should be in a position to learn from the experience of those who have gone through the fire first. Since the Systems and Procedures approach involves Work Study (O&M) on the one hand and Electronic Data Processing on the other it is a "natural" to investigate first. In a recent issue of the London newspaper "Sunday Times" M. Laver says "the most effective animals are those with the best nervous systems. Perhaps the countries with the best nervous systems will be the most effective too." To be effective one must know what is going on, it will indicate whether the brain and the nerves speak the same language. But how can one get about it? We can be quite sure unless:

- (1) The impetus comes from pretty high up in the hierarchy of an organization.
- (2) Ways and means (formal) be found to involve those concerned at all levels; we will not succeed in bringing about improvements.

The Systems and Procedures approach takes care of the above-mentioned contingencies. It is a complete and disciplined approach to the task of systems investigation, analysis and development *including both management and systems staff*. It provides management with an extraordinarily effective tool, for recording and analysis of what is going on in an organization. Since exposure is the first stage towards improvement this approach represents the logical first step in disciplining/streamlining systems, and as will be brought out later for purposes of:

1. Yielding maximum benefit of a Work Study (O&M) effort.
2. And/or streamlining manual work methods.
3. And/or leading to the most effective use of electronic data processing.

What is the Systems and Procedures—approach? It is a method of recording the work-flow of an organization bases on tracing out the paths (red-tape!) that paperwork generates. There are no large administrative systems or organizations that can do without increasing their already unmanageable amounts of paperwork.

Before going any further let us look at the ubiquitous organisation chart at Diagram 1. This is typical of several organizations.

However, these vertical relationships tell us no more than the levels of authority. If we were to attempt to show the way work or information flows it will look like the representation in Diagram 2:

This very untidy, but it does represent the way work gets accomplished. On the academic plane Graicunas has formulated an equation telling us if $R =$ number of relationships

and n = number of subordinates that when $R = 4, 6, 12$ or 16 the number of relationship will be $44, 222, 24708$ and 5245281 , making it extremely difficult to coordinate/control. It is quite clear, that if we can get at the working relationships, ie the horizontal-flow of information, we will get somewhere. Since this cuts across compartments or functions it follows that the initiation of such an effort can only lead to success if a top manager oversees the effort. *The reason why we find so many Work Study (O&M) frustrated workers the world over—not only in Pakistan—is that attention in the past has never been paid to this extremely important point.* To such a staff function which is involved in following the work-flow low down in the hierarchy of an organisation is to pour money down the drain. As stated before, this means not only junior management but senior management must be involved. Involvement brings with it the awareness of interdependence, the awareness that organizations do not function like single amoebic cells or as the organization chart has it with its neat little boxes properly labeled, each a world unto itself.

The traditional way of doing things creates no-man's lands as well as overlapping of work. Work in one section is duplicated in another. Often there is no clear definition of authority. Many times individuals perform the same tasks in different ways. A number of the data produced are inaccurate. Many returns are directly destined to the waste-paper basket . . . many a time the best filing system! The prevailing attitude is "chalta hai chulne do." We know we are not all that efficient but we cannot be too bad as work goes on. It is like dust hidden under the carpet. If you don't look for it, you won't find it.

If we are to get at the horizontal movement of work-flow it is necessary to develop a graphical means of representation. One picture is worth a 1,000 words. It is, of course, possible to put it down in the form of a manual, but by the time one gets to page 76 and is referred to Tables II & XI on pages 4 and 28 to be read in conjunction with paras 36 and 58 it becomes impossible to make use of such a manual effectively but as a decoration piece, a paper-weight or a book-end! Only the photographic mind can assimilate the contents meaningfully.

Before going any further, it is necessary to define what a System is and what a Procedure is: A "Procedure" is:

"an established clerical routine for series of clerical operations involving one or more persons in one or more departments."

Two examples:

(a) THE ACCEPTANCE OF A STUDENT AS QUALIFIED TO APPEAR IN AN EXAMINATION.

The student fills in an application form and sends it on, the Receipt Clerk who removes the application form from the envelope, discards the envelope, and passes it on to a sorter, before doing so an appropriate entry is made in the Inward Register. The document travels on and on till finally some letter or

authority finds its way back to the applicant permitting him to appear in the examination for which a roll number must have been allocated.

(b) ISSUE OF MATERIALS FROM A STORE.

The incharge fills in an Issue Note in duplicate indicating cost centre number, material description, quantity required, dates and initials it and sends it on to stores where the store-keeper goes through his rigmarole culminating in issuance of some goods.

A "System" is: "a network of related procedures developed according to an integrated plan for performing a major activity of the business" eg Purchasing System is shown as Diagram 3. One can have Sales Systems, Accounting Systems, Production Control Systems.....

A simple block diagram a Production Control System is at Diagram 3. The whole system is extremely complex and may consist of as many as 200-500 different documents.

It is now presumed that the concerned individuals have been properly Atuned to the Systems and Procedures approach "The next stage is to Select the area for investigation to be followed by recording of what is going on, we can indicate the sequence thus:

ATTUNE---SELECT---RECORD

We would progressively Analyse & Develop, Gain Management Approval, instal the new way of doing things and finally Maintain it. We can indicate the sequence as shown in Diagram 3A.

We can draw a line indicating Time below the sequential events. We have, in fact constructed an Horizontal Time Line (HTL) representing the flow of work in an overall fashion where an appraisal of the old and development of a new and improved way of doing things is required, so as to reduce the disorderliness (or entropy as a physicist might say) in the system. Such a representation (model) can be made to cover the gamut of activities involved in an organization below is shown *part of a much larger network*: See Diagram 4.

Having obtained the macro-picture or bird's-eye view it is necessary to get the micro-picture or a worm's eye view. The micro-picture involving the detailed procedures makes use of a number of symbols developed in Work Study plus a few more. They are indicated in Diagram 5. An example of a Checking procedure is given in Diagram 6.

Having charted all the procedures of an organisation it is possible to draw a heavy line through those taking the longest time. THIS IS THE CRITICAL PATH. As the charts are made for each procedure which are approved by the departmental head concerned to ensure a correct mirror image is presented. The several charts can then be connected together providing a complete picture of all the details involved in the flow of work. A

complete picture might be 2-300 yards long. BUT IT DOES REPRESENT THE FACTS. (See Diagram 7).

With exposure of the anatomy of information-flow it does not take much to introduce improvements thus reducing red-tape. It is a matter of commonsense to effect streamlining. Basically we have improved the arterial flow of data in information networks by reducing uncertainty or the entropy of the system.

But for top management this extent of detailing is not required. A Summary Chart of about 10 percent of the large provides enough for them to lay down what improvements in cutting down the red-tape are necessary.

At this stage the following can happen:

1. Since there is an overall delineation of the procedures a Work Study (O&M) team can effect improvements at a cost centre, work station or desk with full confidence that whatever they may recommend will not interfere in any way with the flow of work a number of stages down the line later. THIS ACCESS TO THE FULL PICTURE IS WHAT PRESENT-DAY O&M TEAMS DO NOT HAVE.
2. It is possible to streamline existing manual systems reducing the time from input (an order, a request) to output (dispatch of goods, a letter) thus improving the overall efficiency of the organization.
3. The new disciplined system provides an effective foundation for a good computer systems design leading up to electronic data processing. This is, in fact, the blueprint for an integrated information system.

From the above, it should be clear how it is possible to utilize the Systems & Procedures approach. ONE OF THE ADVANTAGES OF USING IT IS THAT IT REQUIRES NO FOREIGN EXCHANGE. It does, however, require an open mind and realization of the fact that each project is an "applied research effort. Hence it involves a certain degree of open-endedness as it is not possible to predict what the results of an investigation will be in advance. The will to experiment must be there. Experimentation is being forced upon us because the time has gone when we could afford the luxury of sitting back waiting for the manna to fall from above. We have to react increasingly quickly to proliferating technology. As mentioned earlier the inroads that modern technology is making on our daily living gives us lesser and lesser time to react beneficially. THE SCIENTIFIC METHOD OF ATTACK HAS GIVEN US THE NECESSARY MANAGEMENT AIDS TO SOLVE THE PROBLEM OF EFFECTIVE CO-ORDINATION IN LARGE BUSINESS OR GOVERNMENT ORGANISATIONS.

Since mention was made of EDP earlier it is of interest to note that unless the Basic Information System (the nets paper work generates) of administrative systems or organizations are put right first, the computer is absolutely powerless to assist.

Computers

It has happened in the West that several impatient organisations in an attempt to force the computer to "solve all their problems" has caused more grief than is commonly known. The speed with which they expected the manna to fall from above makes us wonder what their management were up to in the first place. Diagram 8 indicating what happens when a computer is plugged into an undisciplined system:

The computer has to be kept posted ALL THE TIME of what is happening and further, what changes or alterations may be made in any procedure. The human being asks questions the computer does not, so it must be "informed! It has been correctly stated just as FIFO is first in first out with reference to stock valuation, GIGO is garbage in garbage out for the computer. The quality of the output is directly dependent on the quality of the input.

So our problem is to find ways and means to ensure we do not feed garbage to the computer. This as we have gathered from the Systems & Procedures approach is easier said than done. It requires an understanding at all levels of a hierarchy as to what it is all about. It requires the active participation of all concerned. It requires discarding our current notions of managing organizations in the traditional line and staff way so well shown on organization charts. It requires an 'open door' policy to all levels of management, after all the computer, to give it it's due, has never seen or heard of an organization chart. It requires development and training be conducted across departmental lines. Above all it is possible to harness these modern management aids to act as our willing work-horses. Since these skills have been developed in the West we can be quite sure they will have to initially modified before use in this country. TECHNOLOGICAL IMPLEMENTATION IS ONE THING, BASIC INFORMATION SYSTEMS COME FIRST. Systems work is time-consuming, laborious and pains-taking, this is unfortunate out true. Without this the machines would be virtually useless. The need to understand data processing technology is only incidental to the basic information system itself.

If we discipline/streamline our systems then we have the situation as seen in Diagram 9.

THE OUTPUT IS GOOD BECAUSE THE INPUT IS GOOD. We can now see it is all too easy to be seduced by the glamour of this new product—the computer—supposedly a panacea for all organisational ills. Realisation comes later, that what appeared to be so marvelous a toy is no more useful then the men behind it. It is, therefore, necessary to strip this management aid, and it is no more than that, of the "black-box" mystique. If we can see through the tinsel and window-dressing of this machine it is possible to ensure an objective evaluation.

THE SYSTEMS AND PROCEDURES APPROACH DOES THIS DISROBING AND IN SO DOING SHOWS UP VERY CLEARLY THE TRUE NATURE OF SYSTEMS.

Our present GNP is about Rs 40000/- million, what the next 5-year Plan will do to it the economists think they know. What we as layman know is this much that it will create more and more upheaval in large organisations which will find themselves grinding to a dynamic halt not on account of not having the information they require for decision-making but BECAUE THEY ARE HELPLESS IN CULLING IT OUT OF THEIR PAPER-RIDDEN TRADITION BOUND SYSTEMS AT THE TIME IT IS REQUIRED.

It is up to us to make use of powerful tools. It is only through use that wits are sharpened, so it is with these management aids, the more you use them the better you get. The better you get the greater the chances of some creative thought producing yet more advanced tools enable a higher degree of optimization. But are we up to it?

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