Create a Quality Plan for Service Functions

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ABSTRACT

When beginning a program for quality, especially in a service application, managers face the problem of where to begin. This paper addresses where and how to start from a management perspective. A well-structured quality plan assures success by managerial involvement and integrating the concepts of quality into the structure of the firm. A quality plan gives authority to the activities necessary to achieve "Quality—the Universal Equation for Excellence."

The process described here has been successfully applied to develop quality plans and has worked. While it is a managerial systems approach to developing a quality plan, it also has many other side benefits that will be noted. It is a simple, fast, structured method, which encompasses sufficient flexibility so it can be applied in almost all situations.

The paper will point out the requirements and methods of the technique. The method is special in that it was developed for service and administrative functions. It is in a unique position to be used in white-collar work. It also has applications for manufacturing.

INTRODUCTION

In 1978, Adam, Hershauer, and Ruch published the results of their work for a National Science Foundation Grant entitled *Measuring the Quality Dimension of Service Productivity*[1]. This landmark work brought together the elements of a socio-economic system needed to define the basic problem of what to study and how to define measures of quality in a complex process.

The authors carried their work through to the development of quality/productivity measures. They had selected banking as the best area to demonstrate the technique. Unfortunately, the productivity measure aspect was not truly understood by operations managers. In consequence, a number of banks took the first steps of the method to create a working model. Although the approach by C. A. Aubrey[2] and W. J. Latzko[3] differ in detail, it is based on the initial steps of Adam, *et al*.

The definition of the process and how to measure it is of prime importance. Other authors that have written about this topic recently include Baker and Artinian[4], Melan[5], and Scherkenbach[6]. All of the writers look at a process as a sequence of input, throughput and output. It is only after the process has been defined that a systematic approach to continuous improvement of quality is feasible.

The method developed by Adam, *et al* is very useful in defining the process in a rapid, structured way. Those involved in the process make the definition. They are guided in the method.

Once defined, the administrators of the process use another structured method, the Nominal Group Technique, to define the weak spots in the process, the places where quality deviations can occur. They the select the key quality deviations and develop measures for these.

Most systems then proceed to use the measures. In the method described below, the way to proceed is to build and implement a quality plan.

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PARTICIPANTS

The key to the success of starting a quality system is to gain the understanding and the cooperation of all of those involved in the system. A by-product of the method is the perception gained by the participants in the process, of the areas where controls are required and the need for those controls. The four groups that are involved in the development of the quality plan are reviewed individually.

1. Executive who commissions job

No project can get very far if it lacks, or appears to lack, upper management support. Dr. Juran made the point many years ago. In speaking about attitude for improvement he states, "Top management can do the most"[7]. He is right; without top management support, no activity can succeed. The support of top management supports the operation. It "... establishes the legitimacy of [the group's] resulting requests for data and other assistance from the rest of the organization[8].

A meeting is arranged with the executive who is involved. At the meeting, the outline of the procedure and requirements is presented together with a list of products to be delivered from the method: Systems boundary, Workflow charts, a list of all Quality Deviations, a list of Key Quality Deviations and a precise plan for Measurement and Action -- the Quality Plan.

If the executive agrees to proceed, the other members of the group are selected. Meeting dates are scheduled. The executive sends a memorandum to all involved outlining their part of in the process and informing them of their tasks.

2. Coordinator

The person most responsible for the smooth flow of the process is the coordinator. Somewhat like a facilitator, the coordinator runs all the meetings. Although the coordinator is more interactive with the groups than a facilitator would be, the essential element of the coordinator is to provide the methodology to produce the results.

Coordinators are trained, not born. Good coordinators learn in an apprenticeship program. There are no schools to teach the task. It is rare that a coordinator can learn the job without help.

A coordinator is a person with sufficient professionalism to gain the respect of the groups that are encountered. The coordinator controls the meetings.

3. Management Advisory Group

The management advisory group is a middle management group. Using them serves two functions. Most importantly, they keep track of the results of the meetings through the coordinator. They advise the coordinator of any significant matters that might be missed by the working group.

The second function is to keep the middle management involved in the process. Many failures of programs have occurred because of the failure to involve all levels of management in a participative process. The result of such failures is that, through fear or antagonism, the middle managers do not cooperate, and even hinder the process, which quickly disintegrates.

Middle management has important contributions to make, and they must feel ownership of the Quality Plan as much as their boss and their subordinates.

4. Working group

The working group consists of supervisors and key personnel from the area studied, as well as others who can contribute, such as representatives from related departments and/or of the customer. The group should be between 8 and 16 members.

As agreed with their management, they shall not be called out of the meetings, nor miss any meetings due to their work. If this cannot be done, if they are so indispensable that no one can take their place for a few hours, then it is best not to use them, or to cancel the project.

Many firms find that, while the supervisors are away at the meetings, their back-up personnel can get some training.

METHOD

The method to develop the Quality Plan is to hold a series of meetings, each of which builds on what got done before. Listed below is an outline of the action:

1. *Preparation by coordinator*

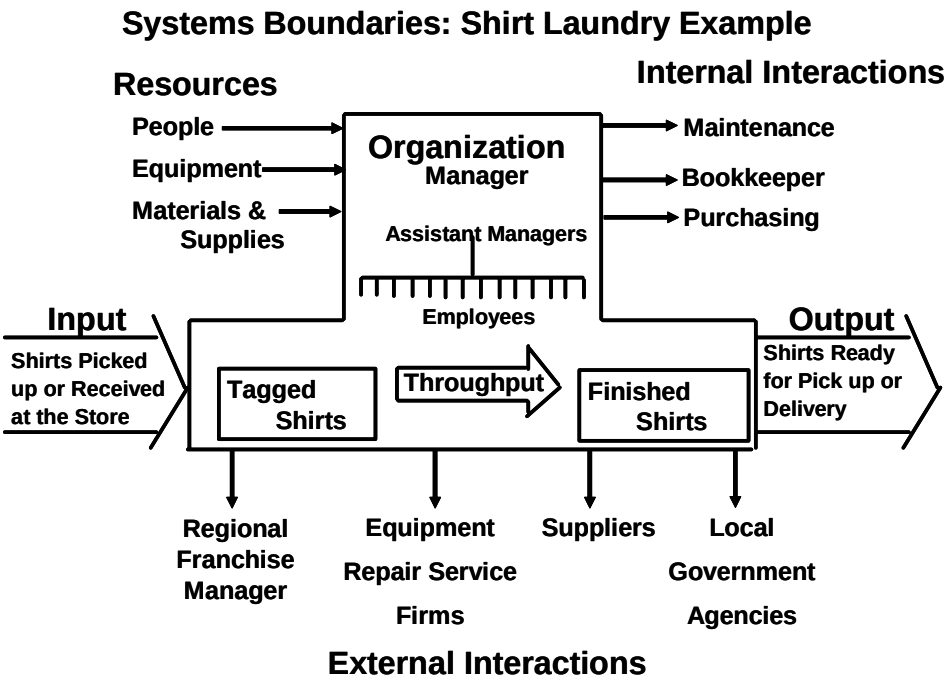
The coordinator spends time in the area under study. The purpose is to learn the jargon and operation of the area. In the process, the coordinator prepares a first draft of the Systems Boundary described below.

2. *First meeting*

All attend the first meeting. The executive presents the coordinator and then leaves. The coordinator explains that the meeting is in two parts:

1. Systems Boundary
2. Workflow charts

The Systems Boundary is a graphic description of what constitutes the input to the process. It shows the limits of consideration and the details that constitute the output. Only the area within the Systems Boundary is under consideration. All other areas require a different study. The System Boundary limits the area of concern.



The Systems Boundary also shows a sketch of the organization to accomplish the job. The resources needed are detailed as internal

(within the company) interactions and external interactions.

When the Systems Boundary has been completed, usually in an hour or so, the Management Advisory Group leaves by pre-arrangement. Only the Working Group remains to develop the workflow.

The working group learns about the change of state from the coordinator. There are generally very few changes of state, which transform the input into the output, although each change of state may require a substantial number of tasks. The working group is subdivided into groups of three or four; each group develops the changes of state. It takes two to three hours for the group to accomplish this task. They use a form such as shown in figure 2.

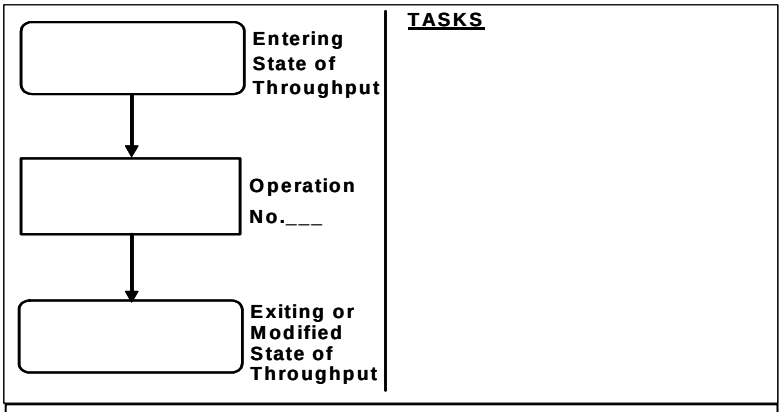


Figure 2. Workflow Diagram

After the meeting, the coordinator collects all the work generated and resolves any differences among the groups. It has been found that the differences are usually minor, and more task related than substantive. The result of the work is typed.

3. *Second meeting*

The Working Group again meets with the coordinator. The typed results are reviewed for correctness. The coordinator then introduces the concept of deviation and describes the Nominal Group Technique (NGT).

The NGT is the main tool to develop the list of quality deviations. By means of the final step, voting, the Key Quality Deviations are derived. The four steps are:

1. Silent generation
2. Round robin paging
3. Clarification
4. Voting

Silent generation is the process of asking all members of the group to list on a piece of paper all possible deviations that they can think of, including the place in the change of state where it could occur. It is possible for deviations to occur in the input.

The members of the group are given 20 minutes to prepare this list. The coordinator also writes. After 7-8 minutes, many members of the group look up to see if others are finished. When they see the coordinator still writing, they return to their own task and produce a large number of additional deviations.

Round robin paging is used to rapidly list as many deviations as possible without judging their merit. Each member in turn is asked for a deviation and the place where it occurs. The coordinator lists this on a flip chart, consecutively numbering the deviations, giving the deviation title and place in the process where it can occur. When the chart is full, it is posted before the group and a new page is started. It is common to get 7-9 deviations per person.

When a person is asked for a deviation, that person can respond with one from the list, one that just occurred to him (perhaps triggered by what someone else said), or pass. Even though a person has passed, they are asked for a deviation at their next turn. Sometimes people pass three or four times before contributing again. The process is finished when every person passes twice in a row. This takes about 1-1/2 to 2 hours.

Clarification makes certain that the entire working group understands the terms on the flip charts in the same way. Due to the use of special terms in departments, words that have other meaning in ordinary use have a unique meaning in the department. This can result in confusion. Generally, clarification takes about 20 minutes.

Voting is the method to generate the Key Quality Deviations. Each member of the group is given eight 3 x 5 inch cards. They are asked to select the eight most important deviations, placing one on each card. To speed up the process, it is useful for the group to scan each flip chart and select one or two important items from each. These are put on a sub-list, and the selection of the eight comes from the sub-list. For each deviation, the sequence number and title are placed on the card.

The cards are ranked by first, selecting the most important item. This is marked 8 (most important) in the voting box. Then the group is asked to select the least important deviation. This is marked 1 in the voting box. Next, the group is asked to select the most important deviation of the remaining cards. This is marked 7 in the voting box. The process continues by alternating the most important with the least important for the remaining cards. The process takes about 20 minutes. These cards are collected and, from the vote, the coordinator determines the Key Quality Deviation. As a rule, any card with weight "8" is selected as are cards with substantial vote/weight ratio.

As usual, the results are reviewed with the Management Advisory Group who may, on rare occasion, add a deviation but may not remove any.

4. Third meeting

The third meeting starts with a review of the work to-date and any corrections that might be applicable. The coordinator then instructs the group in the lore of measurement. An NGT without voting is used to generate the measures for the Key Quality Deviations. This process takes about two hours.

Some success has been achieved in bypassing the NGT. Instead of the Nominal Group Technique, the coordinator leads the group in setting measures for each Key Quality Deviation.

5. Fourth Meeting

Everything that went before has been leading up to this meeting. It is here that the Quality Plan is developed. Under the guidance of the coordinator, a plan is made for each measurement that detail:

1. What is to be measured?
2. Why the data is important?
3. Where the data is to be collected?
4. When is the data available?
5. When (with what frequency) is the data to be collected?
6. What is an example of the data collection form?
7. Where will the data come from?

8. What is the method of analysis?
9. How often will analysis be performed?
10. Who is responsible for collecting the data?
11. Who will do the actual data gathering?
12. Who will do the actual analysis?
13. Who will get the reports?
14. What are possible actions to take based on signals?
15. How much will the data cost?
16. When will data collection terminate?

The plan is recorded and approved by all present. It is then submitted by way of the Management Advisory Group to the Executive who commissioned the study.

6. Executive approval

As agreed in the beginning, the executive will give his approval to proceed, or reasons for disapproval, within one week of the plan's submission. This timing is of utmost importance to maintain the enthusiasm in the execution of the plan that has been generated to-date.

IMPLEMENTATION

Those who crafted the plan should perform the implementation of a plan, subject to approval. As Dr. Juran suggests, the plan should be incorporated in the organization's business plan to legitimize it.

It has been found useful to have regular meetings of the original group at ever increasing intervals. The first three meetings are generally held a week apart. Then the next three meetings are bi-weekly. After that, monthly or bi- monthly meetings are useful.

The first weekly meeting often discloses that a number of implementations have not taken place. The fact becomes apparent. The meeting serves to drive implementation. By the second weekly meeting, problems in data collection are discovered. These are solved. By the time of the third weekly meeting, data is actually gathered.

The bi-weekly meetings are used to see the results of the collection of the first data. Operational changes often suggest themselves in these three meetings. Data collection needs to restart if changes are made.

The continuing monthly meetings are to monitor and control the system. Using the data, special causes are identified and corrected.

When the system is stable, the same group can become an effective steering committee for a breakthrough technique analysis to improve the process.

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