

Barriers to Total Quality Management
in the Department of Defense

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Abstract

Reliability and maintainability are subsets of the assurance sciences; Total Quality Management (TQM) constitutes an umbrella which covers all of the assurance sciences, with significant emphasis on the human and organizational systems underlying all production processes. In implementing TQM, or any of its major elements, it is necessary to identify and develop strategies to overcome barriers to successful change. When the Air Force Logistics Command initiated TQM, a number of challenges surfaced which must be overcome to achieve the full potential of the program. These barriers included a lack of worker motivation, opposition of existing management, lack of effective communication, and numerous others.

Introduction

In February of 1986, Ronald Reagan signed Presidential Executive Order 12552 directing designated agencies of the Federal Government to improve productivity by 20 percent by 1992 (1:38). The vehicle for accomplishing quantum improvements in organizational productivity was not specified. The challenge was raised but no champion came forth to slay the dragon of increasing budgets and mind-boggling deficits.

In February of 1987, then-Secretary of Defense Weinberger tasked managers throughout the Department of Defense (DOD) to initiate teams of managers at all levels to begin to weed out barriers to productivity in their organizations. In March of 1988, Secretary of Defense Frank Carlucci espoused Total Quality Management (TQM) as the vehicle which would enable the DOD to achieve the lofty goal established by President Reagan. "The successful TQM operation is characterized by an organization of quality trained and motivated employees, working in an environment where managers encourage creativity, initiative, and trust, and where each individual's contributions are actively sought to upgrade quality" (2).

Problem or Question Addressed

At the vanguard of the quality movement in the Air Force, General Alfred G. Hansen, Commander of the Air Force Logistics Command (AFLC) initiated a "resurgence of quality" in December of 1987. According to General Hansen, "The AFLC quality program is a combination of four main factors--what we call 'QP4'--for people, process, performance, and product. It is first and foremost a

program of people, the key ingredients ... teamwork, commitment, accountability, motivation, and education are hallmarks of the AFLC program because total participation and acceptance are absolutely essential (emphasis added)" (3). Yet, despite an almost ubiquitous recognition of the need to involve--better, to immerse--the people within organizations in the new culture of TQM, most failures of total quality control can be attributed to the resistance of upper level management, middle management, and the line workers--probably in that order.

Work Performed

Recognizing the necessity for education of all the people involved, the command tasked the Air Force Institute of Technology (AFIT) to provide initial orientations on the philosophy and tools of TQM to as many people as possible throughout the command. Responding to the challenge, AFIT quickly developed a one-day orientation and workshop to begin to build a common vocabulary and understanding of the philosophy of total quality and continuous process improvement. From April through November of 1988, this quality symposium was delivered to a total of over 5,500 people at 7 major AFLC installations. Although a few of the symposia were presented solely to the upper management levels at two installations, the majority of the sessions were presented to mixed audiences of line workers, first-level supervisors, and upper mid-level management. They represented a cross-section of every aspect of Air Force life. The participants were not limited to the industrial or manufacturing processes of the Air Logistics Centers, but also included doctors, lawyers, engineers, secretaries, chaplains, ad infinitum. To use a traditional break out, blue collar, white collar, pink collar, and knowledge workers were all represented.

As an introduction to quality, overviews of the contributions of Deming, Juran, Crosby, and Taguchi were presented to the participants of the seminar. During the discussion of Deming's Fourteen Points, participants were tasked to identify the most formidable barriers to TQM in their organizations. Literally hundreds of 3x5 cards poured in with people's immediate, gut-level responses to the possibility of actually changing the culture of AFLC's behemoth bureaucracy.

While it was clear that these responses did not represent a scientifically selected statistical sample of the attitudes and opinions of the entire workforce, it was also clear that the data on the cards could be

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used to shape a picture of the texture and magnitude of the obstacles to be overcome. In the collection process, the cards were passed to the directors of quality programs at each of the locations, so that they could also immediately develop a sense for the level of resistance in each of their organizations. The responses were then typed, photocopied, and forwarded to AFIT for further analysis. Because of these delays, many of the responses from different organizations were intermingled, effectively preventing any type of stratified or inter-organizational analysis. However, all of the responses were then pooled, sorted categorized, and prioritized to provide an informal content analysis of barriers to total quality management in AFLC.

TABLE 1
Ranking and Categorization of Barriers to TQM

RANK	CATEGORY
1	Lack of worker motivation
2	Opposition of existing management
3	Acceptance of status quo/ resistance to change
4	Lack of effective communication
5	Lack of adequate training and education
6	Manpower concerns
7	Incompatible management systems
8	Production quotas
9	All talk--no action
10	Inadequate tools, equipment, and supply system
11	Over-regulation
12	Inadequate budgets
13	Lack of process controls
14	Union resistance
15	Awarding business on price alone

Results and Conclusions Reached

When the responses were analyzed, 15 distinct types of barriers stood out. The number of responses were used to develop the rank order of barriers shown in Table 1. Further analysis indicated that the barriers could be logically clustered in four categories of response levels within the ranked barriers. The barriers will be discussed within each of the separate categories. The comments in quotation marks are direct quotes from the actual cards which were turned in. These quotations were selected not because they were elegant or unusual, but because they typify the responses which we received.

Worker/Management Interface Barriers

The first category contained the four highest ranked barriers. It was interesting to observe that these barriers were primarily concerned with problems associated with the worker or management (all levels) or the interface between these two areas. Over 50 percent of the responses fell into this category (Figure 1).

Many workers felt that "little management support existed" while management saw "workers' resistance or non-support for

TQM." Both groups listed "a lack of motivation, trust, and cooperation" as a significant stumbling block to implementing TQM. Both management and workers stated a general acceptance of the status quo seemed prevalent, with a lack of communication at all levels.

Workers commented on "a lack or consistency of guidance" while management felt "workers failed to listen" to the prescribed guidance. The words most used to describe this problem at all levels were "confusion and misunderstanding." This lack of communication was present at all levels within the organization from workers to first-level supervisors to middle managers and finally to top management. It is also most interesting to note that each group felt strongly that the other group would be most resistant to TQM. Managers were sure that the workers would resist the cultural change and shouldering of responsibility inherent in TQM, while the workers were sure that management would never willingly involve them in the decision-making and improvement process.

This resistance to change and the associated acceptance of status quo must be overcome in any organization which hopes to implement TQM. There must be trust from both management and the workers. We must avoid the attitude that "it won't change anything" or "it won't work" without giving TQM a chance.

Manpower and Training Barriers

One major problem was that quality management was viewed as an "additional workload" by most personnel. Therefore, comments abound about "fear of extra work in an over-worked environment" or "too much work, too few people." These perceived staffing problems were further complicated by personnel who were "too busy fighting fires to make quality improvements."

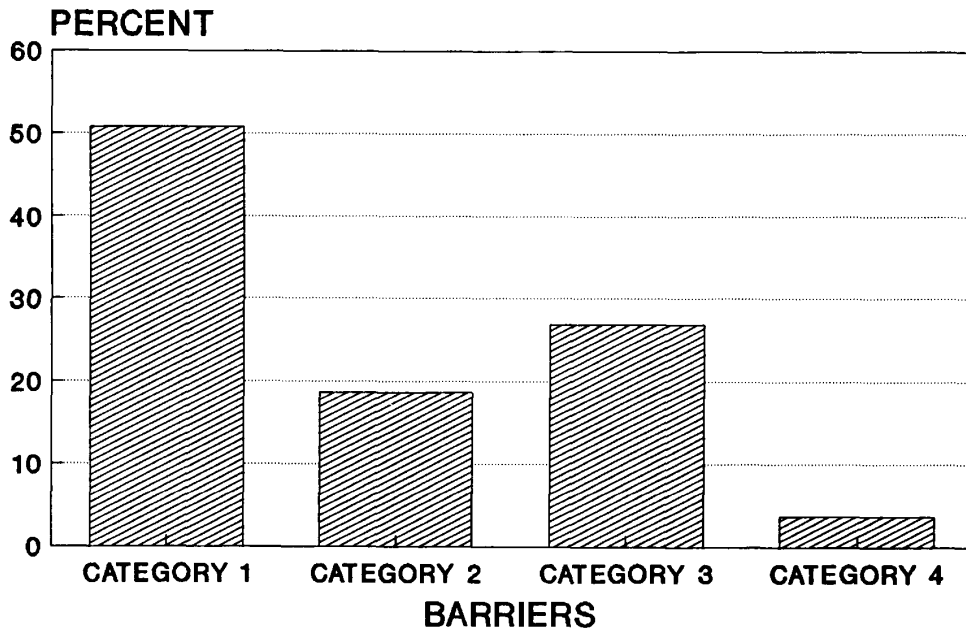
All these comments show a lack of understanding of the TQM process. Quality management does not require additional personnel to handle the increase in workload. You are not "doing more with less;" in fact, you are doing the work more efficiently and therefore are more productive with the same amount of manpower. As a manager using TQM, you should be making quality improvements, not fighting fires.

One of the keys to having quality management work in any organization is having all the people educated in the quality concepts. This was recognized by a majority of workers and managers as a key barrier to implementation. TQM implementation will fail if management does not "allow time to accomplish or be involved in training." Also, many personnel stated that the training must not be "inferior or insufficient." Managers must recognize the necessity for education within all areas and through all levels of management to have a successful TQM implementation.

Philosophy, Policy, and Procedural Barriers

Promotion, hiring, and firing practices linked directly to the appraisal system now in place presented a formidable barrier for 27 percent of the respondents (Figure 1). Many comments were aimed at the "highly political nature" of appraisals and stated

Figure 1. PERCENT OF RESPONSES PER CATEGORY



that the practices and philosophy were "power-based and self centered." Many people linked these management philosophies with the next barrier: production quotas.

Personnel felt that policies and procedures which went along with production quotas produced a "pressure to produce" which counter the TQM approach. In fact, some confusion existed when workers were told "to get a good appraisal you must produce to this level;" however, they were also being told "to not sacrifice the quality of production to meet production quotas."

A lawyer approached us during a break in a quality presentation with an interesting story. Upper level managers had seen fit to measure his department's efficiency by counting the number of contracts reviewed. After several months of measurement, it was obvious to everyone that more contracts were being produced. In fact, legal staffs at different bases were being compared by the number of contracts which they produced. These actions had gone on for several more months when customers started to complain about the level of quality they were receiving. Managers had become so enmeshed in measuring the number of contracts that they had lost sight of their primary tasking, which was to produce quality contracts.

As managers, it sometimes becomes very easy to "count beans." Bean counting is easy and relatively effortless, and therefore becomes the primary measure of efficiency or effectiveness in the organization. We must eliminate the fascination with measuring meaningless, easy-to-count units and using

this as a measure of quality. If quotas are set and workers are required to produce specific levels to receive pay or higher appraisals, a manager should be aware that this appears as a significant barrier to successful implementation of a quality program.

This leads quite naturally to our "all talk--no action" barrier. Workers and lower levels of management generally have "suspicions based on past programs." These "hot projects or programs" were received with "much talk and no support" from upper management. Comments ranged from talking about "broad platitude with little planning" to "unclear priorities." Workers generally expressed concern over "how serious management was on this program." This problem is best handled by having top management show tangible support and involvement in the program. This process begins by providing strategic planning objectives to everyone at all levels in the organization to create a constancy of purpose. Everyone must understand the direction in which the organization is heading for TQM to be successful.

The next barrier is associated with supply policies and procedures. This emphasis on tools, policies and procedures underscores the miles of red tape with which federal employees have to wrestle to obtain necessary materials and equipment to accomplish their jobs efficiently. Most people singled out the "inefficiency of the system" as the primary culprit, with comments directed toward "long leadtime" and "cumbersome procedures" which resulted in

large amount of "inferior tools and materials" and the requirement "to rob back (cannibalize) parts." Several individuals asked, "How can you expect to produce a quality product without the proper tooling, equipment or parts?" This question shows a need for a responsive supply activity with clear, concise policies and procedures in place to enable a quality atmosphere to exist and mature.

The final barrier, over-regulation, has been addressed in several of the other barriers in this category. Personnel felt that regulations were "restrictive, contained unnecessary requirements, and needed to be changed." This seems to be the root of many problems in this category. Regulations must be "clear and concise" in order to allow ease of use. In addition, the large number of regulations caused personnel to feel over-regulated in areas such as supply, procurement, legal, and hospital administration. This barrier cuts across many organizations and different levels of management in each organization.

Low Concern Barriers

The last four barriers made up less than four percent of the responses (Figure 1). In fact, these barriers combined did not total the number of responses in the next highest barrier, over-regulation. While the number of responses indicated that the respondents were not as concerned about these barriers to implementation, these issues must be addressed for TQM to succeed.

Some concern was evident about the availability of funding which might cause the TQM implementation to falter; however, it was apparent by the number of responses that this was not a major concern.

Secondly, a very small number of personnel (less than one percent of responses) worried that a "lack of control" of many processes could lead to the downfall of TQM. These individuals were apparently fearful that current inspection processes which verify the quality of the finished products would be abandoned before the self-governing inspection systems of TQM were in place. Obviously, this is a critical issue which must be addressed as the implementation proceeds. Another interesting comment was made on the "seemingly opposite methodology" of allowing contractors to perform at less than 100 percent correct levels. These acceptable quality level (AQL) standards seem to be in direct conflict with the quality guidance placed in TQM which emphasizes a change from inspection to process control. Another area of conflict was in the process of Quality Assurance reporting to production oriented levels of the organization. This seemed to be counter to all management guidelines in TQM.

Finally, the last two barriers included less than one percent of all responses. Union resistance and awarding business by price alone were not considered major obstacles to implementing TQM to either management or workers who responded, although both may be very important in future implementation plans.

Summary

As might be expected, this informal study revealed significant barriers to quality management. Since it was primarily a qualitative statistical study, the real benefit comes from studying the individual responses to taste the flavor of the incredible maze of processes, procedures, and regulations with which workers in a bureaucracy of this size must contend. Every organization which wrestles with the change to TQM has obstacles to overcome, but changing the direction of an organization with well over 100,000 employees will require heroic effort.

A few observations are worth noting about these barriers. (1) Responses were consistent across all geographical areas of the country--whether in California, Utah, Oklahoma, Georgia, Michigan, Arizona, or Ohio. (2) Barriers were present across all hierarchical levels--from senior management to the line workers. (3) Even officers who were at high levels in the organizations felt powerless to change or eliminate many of the barriers. This aspect of the study is most disturbing, since these people must be the "change masters" who will lead the way to a new culture.

These barriers are certainly not unique to AFLC, but if TQM is to succeed within the DOD the barriers cannot be ignored. These specific concerns must be addressed or this initiative will be slowed, stymied, and eventually fail.

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