TOTAL QUALITY MANAGEMENT AND MILITARY REFORM

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A REPORT PREPARED FOR THE
AIR WAR COLLEGE

ABSTRACT

The Total Quality Management (TQM) effort has had notable successes; however, the creation of a quality management structure imposes risk upon many organizations. For example, quality action committees and task forces are able to make matters worse while they try to make processes better. The natural tendency (especially strong within government) to impose elaborate directives and procedures contributes to the problems that TQM is supposed to solve. Unless the spirit of TQM is followed clearly, the letter of TQM could become an obstacle in itself.

An analysis of what can go wrong begins with an examination of bureaucratic behavior within large organizations. Every scientist and engineer has some example of how progress on their projects is slowed down by the reporting and other demands of a bureaucratic overhead. When unchecked, all bureaucracies tend to grow, spend more, impose elaborate procedures, and diffuse accountability to the point where no one has clear responsibilities. Many of the elements of TQM exist to counteract these bureaucratic dysfunctions. An organization which encourages participation and gives everyone a stake in the outcome is nothing like the typical (stereotypical) bureaucracy. Despite the apparent conflicts between TQM and traditional bureaucratic behavior, large organizations have adapted the TQM principles to considerable advantage.

Not every story is a success story, however. TQM structures can be manipulated by individuals or organizations who are trying to expand their influence. Suddenly, TQM offers a new route to impose additional requirements. Collecting statistics, an important aspect of TQM, provides new weapons to individuals willing to misinterpret, maneuver, and orchestrate changes which can cause harm.

TQM reforms will lead to continuous improvement only when managers resist the normal bureaucratic tendencies to expand and elaborate. Managers and technical specialists who are aware of what can go wrong are better prepared to lead their laboratories away from the old structures and toward new ideas that encourage progress.

INTRODUCTION

The United States has recently lost many competitive advantages and these losses put American leadership under great pressure. (36;4,5; 16;131) Military and civilian institutions are urgently examining new ideas. An innovation now applied in many organizations is Total Quality Management (TQM). Among other changes, TQM challenges cultures within stagnant organizations and encourages an environment of continuous improvement. (42;1)

Bureaucratic behavior is a recognized cause of stagnation and other problems within many organizations. (29;120-127) Successful strategies to reform any large organization must cope with established characteristics and known patterns of bureaucracy. By examining similarities between behavior in military environments and in bureaucratic organizations, leaders have better opportunities to identify unfavorable situations and to develop superior organizations.

This paper will appraise especially conspicuous bureaucratic patterns, relate those patterns to problems within military organizations, and examine the opportunities and the risks of the Total Quality Management initiative.

BUREAUCRACY AS A FUNDAMENTAL PROBLEM

The German social scientist Max Weber first suggested the organization of bureaucratic administration. Weber envisioned an elegant and rational form of organization, but things rarely work as planned. (21;122) Political scientists and managers expert in human relations have studied and documented bureaucratic behaviors and dysfunctions. (10;144)

An investigation of government bureaucracy reveals behavior patterns that affect almost all large organizations. These behaviors corrupt organizations and lead to unintended results. (11;78) Examination of these patterns illustrates how the military's problems have grown to degrees that demand innovations such as Total Quality Management.

BUREAUCRACY AND THE MILITARY

Anthony Downs of the RAND Corporation suggested a contemporary definition of bureaucracy in his book Inside Bureaucracy. Essentially, Downs considered a bureaucracy to be any organization where the highest ranking members know less than half the other members, has a full time staff, uses objective hiring and promotion practices, and provides an output that cannot be evaluated in an economic market. (11;24,25)

Downs' definition of a bureaucrat followed from his definition of bureaucracy. A bureaucrat can be any employee who works for a large organization, depends on that organization for most personal income, expects promotion to be based on objective or rational standards, and provides an output that cannot be measured or valued in an economic market. (11;25,26) Downs equated the term bureau with government agency and offered the following special cases: "First, a bureaucrat can work for an organization that is not a bureau. This definition therefore allows us to talk about bureaucrats in private organizations that are intrinsically different from bureaus. Second, not all the employees of a bureau need be bureaucrats." (11;26) A simple rule of thumb suggests, "You can be fairly sure you are dealing with a bureaucrat if he or she has to dial 9 to get an outside line." (35;129)
The U.S. military has all the relevant characteristics of bureaucracy. The military is a large organization that provides most of its members' income, hires and promotes by objective standards, and provides a service—defense—that has a value that cannot be measured in economic terms. Military members probably refuse to consider themselves bureaucrats, but they fall under the definition and show the characteristic behaviors. (40:74)

BUREAUCRACY IN ACTION

A knowledge of bureaucratic behavior can highlight areas that need management attention. It is well beyond the scope of this paper to give an exhaustive list of known bureaucratic dysfunctions. This discussion will center on four especially significant dysfunctions: bureaucratic growth, unconstrained costs, the fight for bureaucratic "turf," and the diffusion of responsibility within organizations.

Bureaucratic Growth

Bureaucracies tend to grow even when their functions do not change or expand. According to psychologists, individual desire for more power is normal. "Every single human, in whatever socioeconomic position, has within him or her a drive for power, a force that can help unfold the potentials inherent in a personality." (26:9) This drive for power also manifested itself on the level of the organization. (11:107) The drive for more people, more money, and more responsibility can lead to problems that make the organization hard to control. (12:639)

Nevertheless, growth offers advantages. An expanding organization offers its leaders more personal power, income, and prestige. Growth usually maximizes morale and minimizes internal conflicts by allowing members to increase their status without lowering the status of others. A large organization will almost certainly have a better chance for survival. Conversely, an organization facing a cut will fight to keep people, money, and power to continue its survival and to expand its status. (11:14)

Unconstrained Costs

The desire for growth also provides an enticement to continuously spend more. Downs approached this problem when he wrote: "The incentive structure facing most officials provides much greater rewards for increasing expenditures than for reducing them." (11:264)

Clement Caditz, the President of Northern Metal Products Company, explored incentives to spend more within the business sector. Caditz developed a set of rules—Caditz's Laws—that also apply to bureaucracy and to bureaucratic growth:

1. It is easier to keep costs down than it is to bring them down.

2. Costs tend to increase in inverse proportion to the amount of effort put into cost control.

3. There is more profit in cost control when business is good than when business is bad. There is a strong tendency to let "fat" creep in when conditions are good.

4. The amount of effort put into cost control tends to increase when business is bad and decrease when business is good.

5. Many costs which are variable when business goes up suddenly become fixed when business goes down.

6. When business is good, companies (organizations) tend to proliferate their activities and thus disproportionately increase their costs. ....

7. Expenses rise to meet the amount of money available." (31:326)

When political support is available and funds are forthcoming, bureaucracy will burgeon. Growth will be natural and functions will expand irrespective of their utility. This can lead to a bureaucratic overhead that costs more than it adds. (2:212)

The Fight for "Turf"

An organization's desire to expand its area of control stems from its desire for growth. Psychologists and managers know many details about the drive to extend personal territory. (5:10) Such a drive can be applied to organizations. An organization's psychological territory—its "turf"—becomes a sphere of influence which confers valuable benefits. (11:212)

Within bureaucratic behavior, the concept of turf has several significant aspects. Ownership of territory is conferred partly by deeds, such as organizational charts and job descriptions; and partly by precedent, such as squatting or staking a claim. Turf boundaries can be physical (separate buildings or wings), procedural (committee memberships or circulation lists), or social (informal groups or status symbols). Turf becomes prized by its inhabitants, and trespassing is dangerous: one enters another's territory only when invited. (18:230)

Situations where too many people have too few jobs are called overcrowding, and overcrowding can cause turf problems. (18:231) When faced with overcrowding, one solution is to enlarge the turf. Acquisition of more turf will either be at the expense of other organizations, leading to conflict, or from the assumption of a new role, which often means increased staff or other overhead functions. (18:231)

The Diffusion of Responsibility

"These are the rules, and I don't make any of the decisions around here," seems the basic attitude of the stereotypical bureaucrat. The rules intended to control a large organization can be applied so zealously that the letter of the rules overcomes their spirit. "An extreme product of this process is the bureaucratic virtuoso, who never forgets a single rule binding his action and hence is unable to assist many of his clients." (28:198)

Large organizations become difficult to control and more rules are usually imposed. Several of Downs' Laws of Bureaucratic Behavior apply to the control problem:

1. Law of Imperfect Control. No one can fully control the behavior of a large organization.

2. Law of Diminishing Control. The larger any organization becomes, the weaker is the control over its actions exercised by those at the top.

3. Law of Decreasing Coordination. The larger any organization becomes, the poorer is the coordination among its actions.


5. Law of Control Duplicity. Any attempt to control one large organization tends to generate another (organization).

6. Law of Counter Control. The greater the effort made by a sovereign or top-level official to control the behavior of subordinate officials, the greater the efforts made by those subordinates to evade or counteract such control." (11:262)

When these laws combine with incentives for conformity, workers often take the tactic of strictly adhering to regulations. Entire organizations seem to focus on how things are done (processes such as filling every block on every form) rather than on what gets done (results). (21:126) Such an approach is the embodiment of stereotypical bureaucratic behavior. The final result is a structure where everyone is a "small cog in a big
machine. No one is really in charge, no one makes any decisions, and no one shows any flexibility. The only authority remains "the book" enforced to the smallest detail. (34:72)

PROBLEMS WITHIN THE MILITARY

Defenders and critics of current government systems often agree that military problems are unique because war is a unique function. Indeed, the nature of national defense compels outrageous inefficiencies. (23:133,134) But bureaucracy--even military bureaucracy--is bureaucracy, and the same predictable dysfunctions encourage continuing problems.

BUREAUCRATIC GROWTH

Military and civilian staffs at all levels have grown extensively since World War II. An especially visible example of bureaucratic growth is the Office of the Secretary of Defense (OSD). Original proposals in 1946 were for a relatively constrained office of no more than 100 people. The National Security Act of 1947 authorized an OSD of three special assistants, a civilian administrative personnel, and a military staff. By January 1982, the actual strength of OSD was 1 Deputy Secretary, 2 Under Secretaries, 7 Deputy Under Secretaries, 27 Deputy Assistant Secretaries, 8 Special Assistants, 121 assorted Directors, and 87,700 other military and civilian support personnel. (22:98,99)

Rank inflation also demonstrates military bureaucratic growth. Military services promote officers to higher ranks even without operational necessity. The ratio of general officers to total military personnel illustrates this trend. At the end of World War II in Europe, the Army and Army Air Forces had 8,268,958 men and women, and about 1,500 were generals. In 1990, the equivalent United States forces had 1,056 generals commanding 2,155,190 personnel. Thus, with a military about one-fourth the size of its victorious World War II force, the United States reduced the number of generals by only one-third. (14:281,282)

UNCONSTRAINED COSTS

The growing costs of weapon systems have been a cause for alarm among the military's critics. Costs have grown for many reasons, and bureaucratic behavior is one of them: "It is the equally natural tendency of a chronically underemployed research-and-development bureaucracy to welcome exacting specifications that impose the need for a research-and-development program every time the Air Force needs some product or other. Finally, it is also the natural tendency of an equally overstaffed supervising bureaucracy to impose all sorts of controls on manufacturers, and to demand mountains of paperwork." (23:170)

These controls cost money. Norman Augustine summed up the costs of added specifications as, "The last 10 percent of the performance sought generates one-third of the cost and two-thirds of the problems." (2:9)

Two recent Presidential Commissions also reported how the costs of bureaucracy were out of control. The Grace Commission estimated potential savings from $10 billion to $40 billion by improving the defense acquisition process. (15:322) In July 1986, the Packard Commission concluded that the greatest waste and abuse came from "a system that necessarily inflates costs, destroys motivations, and takes three times as long as it should to build new weapon systems." (15:337)

THE FIGHT FOR "TURF"

Military forces have a history of fighting each other for bureaucratic turf. In World War II, the Navy pressed for command of the Pacific theater with the argument that the Pacific should be a "Navy show." (25:509,510) More recently, the Navy wanted Marine Corps helicopters to fly in the 1980 mission to rescue the hostages in Iran. (7:67,68) Problems with Marine procedures contributed to the disaster at the Desert One landing site within Iranian territory. Marine pilots and equipment proved less suited for the desert mission than the Air Force units originally assigned. (17:108,109)

The greatest turf battles between United States' services happened just after the creation of the Air Force as a separate branch. Precise interservice boundaries were no longer possible because of new weapons, such as the guided missile and the atomic bomb. The Navy began development of a supercarrier and aircraft to deliver the new warheads. Charges that the Navy was encroaching on the strategic mission of the Air Force, and other questions of jurisdiction, led Secretary of Defense Forrestal to call the historic Key West Conference of the Joint Chiefs of Staff. The March 1948 meeting led to a repetition of the traditional, but irrelevant, delineations of service boundaries, and resolved little else. (9:435,436,439) Signs of these rivalries persist. (7:Ch 9)

THE DIFFUSION OF RESPONSIBILITY

Just as bureaucratic demands for turf put Marine pilots in the Iran rescue attempt, the diffusion of responsibility contributed to the disaster at the Desert One landing sight. The operational plan lacked preparations for establishing command and control procedures at Desert One, or for establishing clear lines of authority. (17:115) "... There was no way to determine in the darkness, and with the noise and the swirling sands, who was in charge or where the central command points were located. ... As a result of the unclear lines of command and control, orders were routinely questioned and frequently had to be given twice." (17:99,100)

Confusion was also on the ground in Grenada. Lacking a common ground commander, bickering reportedly broke out between the Army Ranger units landed in the south, and a Marine amphibious unit landed in the north. (43:197) Downs' Law of Decreasing Coordination seems to have taken control during the major military operations in situations before the success of Operation Desert Storm.

Diffusion of responsibility also follows rank inflation. As higher ranking personnel become available, organizations can grow bigger and faster. After World War II, "Where there had been one set of officers running one department in 1945, several sets were employed after the war, sharing one function between them." (23:163) "At first it may seem that no great harm is done by this cell-like process of expansion ... But the far greater costs are indirect, as overstaffing leads to overmanagement, and its effects deform the entire conduct of the armed services and their bureaucracies." (23:166)

BUREAUCRACY IS A FUNDAMENTAL PROBLEM

The examples above show how bureauacratic cycles upon itself and makes problems worse. Predictable desires for bureaucratic growth lead to increased costs and battles for turf. Larger organizations with more complex relationships prove harder to control, and this problem leads to a diffusion of responsibility. Organizations under limited control grow and spend more while they accomplish less.
Strategy development, field operations, and staff functions have all previously suffered from the same predictable patterns. Under the massive inertia of the problems, how can military leaders begin a successful strategy of reform?

TOTAL QUALITY REFORM

Fortunately, Total Quality Management offers tools to let organizations reform themselves.

WHAT IS TOTAL QUALITY MANAGEMENT?

The ultimate stated goal of Total Quality Management is a complete, long-term, continuous commitment to improve quality in processes, products, and relationships. (19:23) Quality itself is defined as a conformance to customers' requirements. (8:59) A management philosophy and a set of guiding principles form the intellectual center of the new quality program. Many different businesses and organizations use other names to characterize commitment to quality improvement. (1:4) Different groups also use different formal definitions for TQM. (41:6,7) The definition used by the Aeronautical Systems Division (ASD), of the United States Air Force, headquartered at Wright-Patterson Air Force Base, Ohio, is: "A leadership philosophy that creates a working environment which promotes trust, teamwork, and the quest for continuous improvement." (42:1)

Dr. Robert B. Costello coined the term "Total Quality Management" after he became the Under Secretary of Defense for Acquisition in 1987. (1:22) TQM incorporates the ideas of many quality experts. The "gurus" include Dr. W. Edwards Deming, Dr. Joseph W. Juran, Mr. Philip B. Crosby, and Dr. Armand V. Feigenbaum. (41:4-6) Within the military, Generals William Creech and Michael Loh are often recognized for their quality reform leadership. (38:237; 19:20) Authors, such as Tom Peters, James Bellasco, and Peter Drucker, have recently written extensively about quality although they do not usually use the term "Total Quality Management."

TQM PRINCIPLES

Building a quality culture incorporates streamlining organizations, reducing overhead, providing incentives, developing and tracking measurable standards, and ensuring adequate training for all participants. (19:23) ASD also applies a set of principles to describe in detail how the TQ environment should operate:

- Know and satisfy our customer's needs.
- Delegate responsibility and authority - accept accountability.
- Give EVERYONE a stake in the outcome.
- Set goals, compete, measure progress, and reward.
- Create a climate of pride, professionalism, excellence and trust.
- Strive for continuous improvement. -- Make It Better." (42:2)

THE TQM MANAGEMENT FRAMEWORK

Principles and goals on paper do not translate to management results without mechanisms to make them happen. To get results from the TQM principles, offices within ASD charter a Total Quality (TQ) team to educate employees about TQ and to establish and operate three TQ subsystems:

- The Search for Opportunity System, which applies employees' ideas for improving the organization.
- The Measurement System, which provides focus and measures progress.
- The Corrective Action System, which forms teams to solve problems brought forward by employees or management. (42:4)

THE RISKS OF TQM IMPLEMENTATION

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Bureaucratic Resistance

Recall the Law of Counter Control, which discusses officials' efforts to evade control efforts. Imposing a TQ program could be interpreted as an extreme effort to control subordinate officials. Many individuals in a bureaucracy could see the new principles as significant threats to "business as usual" and may typically react by protecting their turf. Resistance could range from minimal compliance to outright sabotage of TQM efforts. (9:624) The "we don't have time for that kind of nonsense" reaction is a simple form of bureaucratic resistance.

Overall Skepticism

Many experienced employees have seen reform movements come and go without any lasting improvement. The "Zero Defects" program of the 1960s is often cited as an example of a quality program that did not work. Past efforts thus induce a skepticism that could derail the momentum and the effectiveness of the new reforms. (15:51; 3:40)
Bureaucratic Corruption of the TQ Process

Elements of an established bureaucracy could see TQM as a bandwagon to jump upon, provided it does what they want it to do. Here, the Law of Control Duplication suggests that new mechanisms such as the TQ team and the Corrective Action System would be attractive vehicles for manipulative individuals to extend either personal or interoffice control rather than to give everyone a stake in the outcome. (6:190)

Misuse of the New Tools

Some applications of TQM entail extensive use of statistical measurement tools and better communications. The products of these new tools could be misunderstood, misused, or turned into a quota system that would threaten people rather than encourage participation. (6:196)

OVERCOMING THE RISKS

Several things must be done to overcome the risks of developing a quality process. Results must be meaningful and valuable to all participants. (37:86) Top management must continue unambiguous support for change and all members of an organization must "buy in" with a level of commitment. (8:100, 101)

The quality process also must include mechanisms that prevent misuse of the TQ structures and the information gathered by the new measurement systems. Statistics can appear especially threatening if managers gather information about employee errors, customer complaints, and other areas that could be used to reflect badly upon workers. Here, managers must know how to apply those numbers effectively and not simply impose quotas. (45:78)

Appropriate statistical results remain worthwhile if those results are clearly interpreted and employed for quality improvement. No one should feel threatened by a new TQ measurement system lest that system become a menace to be somehow subverted. (45:72)

Another need within TQ structures is rigorous self-policing. Neither supervisors nor employees can tolerate stagnant or self-serving TQ structures. The quest for continuous quality improvement must never let up, but must remain permanent and long-range. (3:28) Again, management commitment and "bottom up" support from the rank and file must come together. Management must choose team members from the top performers within the organization and reward those members for their work on the TQ teams. (8:117, 118)

Positions on the TQ teams must rotate regularly to ensure fresh infusions of new ideas and enthusiasm. (41:26, 27)

Finally, a knowledge of bureaucratic behaviors can help all participants recognize when progress stagnates and when dysfunctions threaten the quality process.

OPPORTUNITIES, SUCCESSES, AND GROWTH

The resurgence of quality has already established significant payoffs within business, military, and civilian agencies. Although the new philosophy must overcome basic skepticism in many places, an emphasis on quality has begun to initiate a workable, viable, and successful mechanism for change. This fundamental change offers new opportunities and boasts noteworthy successes.

AN EMPHASIS ON GOOD MANAGEMENT

An implicit opportunity is that TQM constantly encourages a turn away from "spend more, do less, never mind the customers or what the workers think" mentality. Armed with an appropriate knowledge of bureaucratic behavior, good management techniques, clear goals, and appropriate TQM mechanisms, managers and workers can develop environments to discourage stagnation and encourage continuous improvement.

TQM fosters long-term change, but a clear-cut change of philosophy within organizations ultimately depends on sound management and leadership techniques that pre-date the current quality movement. An emphasis on quality is not new; high quality has constantly remained the hallmark of many excellent businesses. (37:1, 2)

Today’s quality movement encourages a return—a resurgence—of good management practices in places where quality has somehow suffered. (27:3)

Historically, managers always strive to do more with less. Good managers hold costs down while their organizations produce quality products. (31:328) Many companies and entire industries have somehow overlooked basic management. For many reasons, which include bureaucratic dysfunctions, organizations have slowly deteriorated to where they fixate on internal needs rather than serve their customers.

Changing dysfunctional organizations calls for leadership that can rise to higher purposes and pursue higher goals. (26:19) Thus, the great payoffs from TQM are the means and the motivation to transform leadership itself into a participative effort to focus on results. All individuals in an ideal quality organization work together to apply a superior knowledge of their operating environment. Managers and employees apply critical thinking and communicate effectively. All levels profit as efficiency improves. Everyone participates in decision making and each individual contributes from personal experience and areas of expertise. (37:260, 277)

QUALITY PROGRAM SUCCESS STORIES

The following examples illustrate Air Force successes that resulted from an emphasis on quality.

The Tactical Air Command

General Bill Creech, the Commander of the Tactical Air Command (TAC) before Dr. Costello formally initiated TQM, started a quality program called Production-Oriented Maintenance Organization (POMO). POMO put new emphasis on sortie rates. The structure empowered personnel to make changes; it decentralized aircraft maintenance functions; and it encouraged individual involvement and pride. The reforms raised the sortie rates for the command at a compound annual rate of 11.2 percent. (38:48, 237, 238)

The Advanced Tactical Fighter

The System Program Office (SPO) organized at Wright-Patterson Air Force Base to develop the Advanced Tactical Fighter (F-22, ATF) has extensively applied quality principles. The office recognized how aircraft manufacturers were really customers who received products from the SPO. The Request for Proposal document came to be viewed as an important program office product. With this new philosophy, the number of clarifications, deficiencies, and modifications requested by contractors dropped from 137 in fiscal 1986 to 15 in fiscal 1990. The reforms saved considerable time and helped ensure superior aircraft production. (19:21)

The 4950th Test Wing

Also within ASD, the 4950th Test Wing at Wright-Patterson used TQ to decrease aircraft wash time by 75 percent and save $150,000 on aircraft de-icing operations. (39:--)
In another case, the test wing decreased engine change time by 20 percent, and increased calibration productivity by 25 percent. The improved engine procedures saved $1.5 million in hardware costs. (39:--) 

The Aeronautical Systems Division at Large

Other ASD units at Wright-Patterson have corresponding successes:
- The Training Systems SPO used TO tools to define initial simulator requirements better and follow-on support needs. This led to an unprecedented string of 11 consecutive on-time deliveries of training systems, concurrent with the arrival of new aircraft. Customers were ecstatic with the responsiveness and product quality. (44:--) 
- Also within the Training Systems SPO, a critical process team investigated Monthly Management Reviews and recommended changes. The results saved 95 percent of the original time to complete reviews. SPO communications improved. (46:--) 
- The Resource Management Directorate used TO to streamline travel order procedures and to develop a Travel Order Courier Program that saved over 20,000 manhours. Under the new system, a command audit of 1,000 travel orders showed no errors. (42:22) 
- A TO team at the Aircraft Propulsion SPO worked with industry counterparts to complete more cost-effective modifications on aircraft engines. Their innovations doubled engine reliability and led to an average reduction of $900,000 for the fly-away cost of each F-15 and F-16 engine. (42:23) 
- The F-117 stealth fighter program applied principles of trust and teamwork to develop the new aircraft and get the aircraft flying in less than three years after development started. This development was in near-record time, it tested advanced manufacturing techniques, and it succeeded under complex security procedures. (42:23) 
- Software upgrades for the F-15E Dual Role Fighter previously took 3 to 5 years. TO methods of teamwork and process improvement cut the time to 24 months. (42:23) 
- Depot maintenance requirements for the Advanced Cruise Missile engine decreased from 96 months to 72 months for an immediate $12 million savings. (42:23) 

Wright Laboratory

Through better communications and teamwork, the Wright Laboratory at Wright-Patterson cut the time to place all types of research efforts on contract. Previously a Request for Proposal averaged 227 days from receipt at the Laboratory contracting office until contract award. Now it takes an average of 102 days. A simpler contracting procedure for certain research and development efforts called Program Research and Development Announcement awards now take 35 days when they once took 36 days. (30:--) 

Wright Laboratory contracting also cut Phase 1 Small Business Incentive Research (SIBR) contract awards from 83 days to 61 days. Phase 1 SIBRs are for 6 months of research effort and they cost $50,000 or less. Follow-on SIBR contract awards (Phase 2) for 2 years of effort, worth $500,000, now average 12 days when they once took 63 days. (24:--; 30:--) 

GROWTH OF THE TM SYSTEM

Beyond the successes so far, reforms generated by TQM can encourage new structures at a time when changes in society make fundamental reform both viable and imperative. New technologies, especially electronics and computers, have changed the basic value of information. (44:23B) Managers now need structures that exploit information better than a traditional bureaucratic hierarchy, Fortunately, these structures are evolving. Peter Drucker has foreseen the creation and reorganization of large organizations so that they are based on information. Such projects would apply management forms that resemble the administration of current hospitals, universities, or symphony orchestras. (13:207) In his books Megatrends and Megatrends 2000, John Naisbit cited a continuing switch from rigid bureaucracy to networks with more open communication and less structured individual roles. (32:Ch 8; 33:30B) 

Military units have advantages that let them apply quality principles even more effectively. For example, the military is a practical institution to teach individuals optimal performance. (4:191) In the book Theory Z, William Ouchi contended that the United States' military presents an excellent environment to apply methods of organization that emphasize quality and discourage dysfunctions. (34:180) 
The need to break away from strict bureaucracy should be clear. Rigid hierarchies are no longer necessary or desirable. Unfortunately, neither people nor organizations endure drastic change unless they see pressing needs or clear payoffs. Today, competition imposes a demand for change while new technologies offer improved communications. This can lead to better personnel networks and other superior arrangements. At the same time, the resurgent emphasis on quality allows new management styles that foster improvements through participation, knowledge, and teamwork. Leaders now have the motivation and reliable means to transform old hierarchical bureaucracies into agencies that are flexible, innovative, and responsive. The next task is to make the new opportunities work; managers must rise to the challenges, set the examples, and apply the new tools.

CONCLUSION

Bureaucratic behavior is a problem that has been with government, business, and the military for a long time. Problems such as unconstrained growth, high costs, and turf battles will continue unless there is fundamental reform. The TQM emphasis on quality gives opportunities to transform military management into a more comprehensive leadership approach. Better forms of information and better organizational structures can combine with superior management to empower all participants to perform their best.

Internal reform is now possible in spite of the risks of fundamental change. TQM offers sound possibilities to empower innovation and discourage dysfunctions. Managers can apply insight and critical thinking to resist the endemic pressures of bureaucratic behavior. Leaders can reward managers who take prudent action against unnecessary growth rather than reinforce wasteful turf conflict and spending habits. Total Quality Management offers realistic hope for sustained military progress.

BIBLIOGRAPHY