# GAO

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**General Government Division**

B-249779

April 26, 1993

The Honorable Frank B. Kelso, II
Acting Secretary of the Navy

ATTN: Comptroller of the Navy
      NCB-53

149016

Dear Mr. Secretary:

Total Quality Management (TQM) is a management approach that strives to achieve continuous improvement of quality through organizationwide efforts based on facts and data. TQM also focuses business processes on meeting the needs of customers, both internal and external. Although TQM traditionally has been associated with private sector organizations and their efforts to remain competitive and profitable, in recent years federal organizations have been attempting to implement TQM to cope with budget restrictions and better serve the public.

We recently surveyed federal installations to determine the extent of their use of TQM and learned that 68 percent of the installations surveyed were implementing TQM.[1] An installation, as defined by the Office of Personnel Management, is a unit with a specifically designated head who is not subject to on-site supervision by a higher level installation head and who has been delegated some degree of authority in the performance of personnel management functions. Our survey covered over 2,800 installations, such as Internal Revenue Service Centers, Social Security offices, and Navy bases. We included 260 installations of the Department of the Navy in this survey. The purpose of this correspondence is to provide you a brief summary of the results as they apply to the Navy, as well as to compare Navy results with the total results of all surveyed installations. We believe this information--particularly data on barriers to TQM--can be useful in your planning and as a baseline for judging future efforts.

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[1]Quality Management: Survey of Federal Organizations (GAO/GGD-93-9BR, Oct. 1, 1992).

STATUS OF TQM

As figures 1 and 2 show, a significant number of government installations and Navy installations reported implementing TQM. Figure 1 shows that about 68 percent of the federal installations responding to our survey reported they were starting or already implementing TQM.  Figure 2 shows that about 92 percent of the 260 Navy installations responding to our survey reported that they were working on various phases of TQM.  Additionally, about 85 percent of the Navy installations that have not attempted TQM reported that they plan to implement TQM.

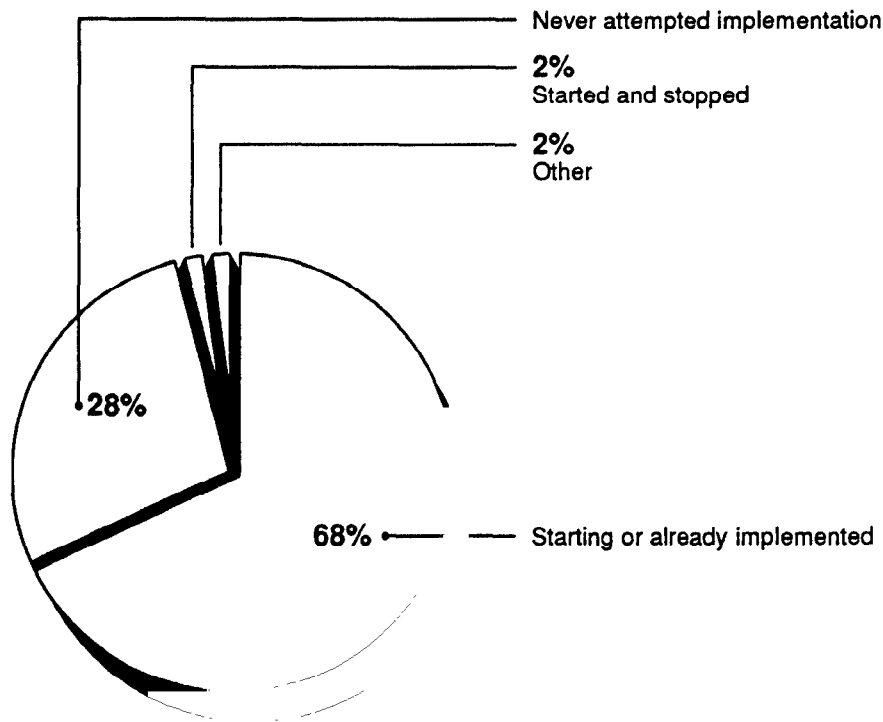Figure 1:  Percentage of Government Installations
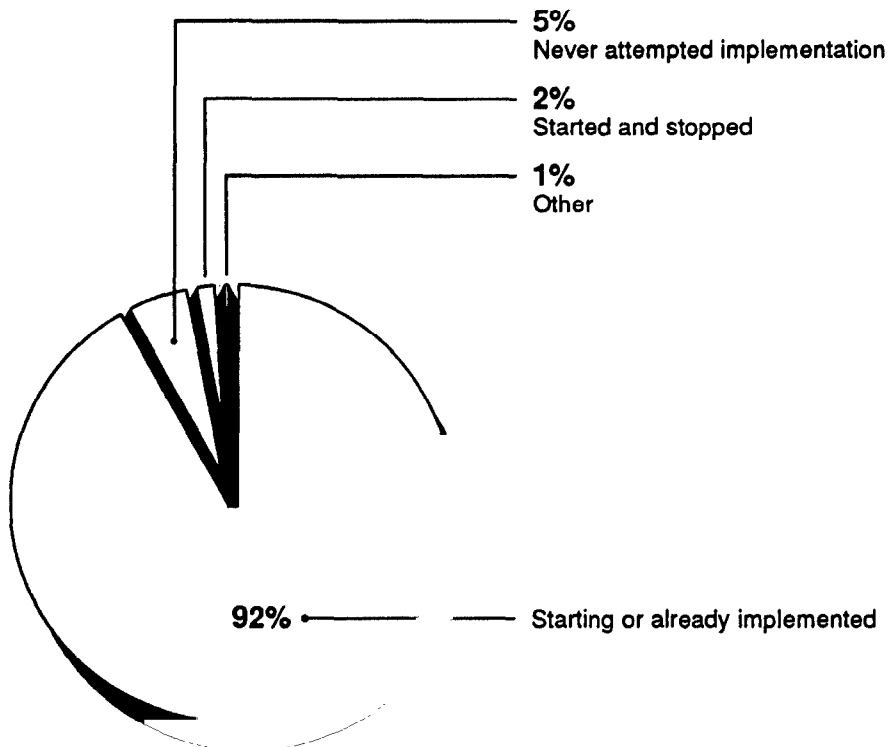Implementing TQM

## Figure 2: Percentage of Navy Installations Implementing TQM

**5%**
Never attempted implementation

**2%**
Started and stopped

**1%**
Other

**92%** ——— ——— Starting or already implemented

To obtain a picture of the status of federal TQM efforts, we asked installations to report their efforts in terms of a five-phase maturity scale. Maturity definitions ranged from Phase 1, preliminary TQM efforts, to Phase 5, institutionalized efforts that are achieving significant benefits (see enc. I for definitions). As figure 3 shows, 51 percent of the total federal installations responding to the survey reported being in Phase 1 or 2, while 49 percent of the Navy installations reported still being in these early phases. The fact that many installations were in the early phases reflects the relative newness of Navy efforts; 43 percent of the installations implementing TQM

reported beginning TQM efforts within the past 2 years. As figure 3 shows, the status of Navy efforts was very similar to the average for all federal installations.

Figure 3:  Status of TQM

**100**  Percent of organizations with TQM efforts
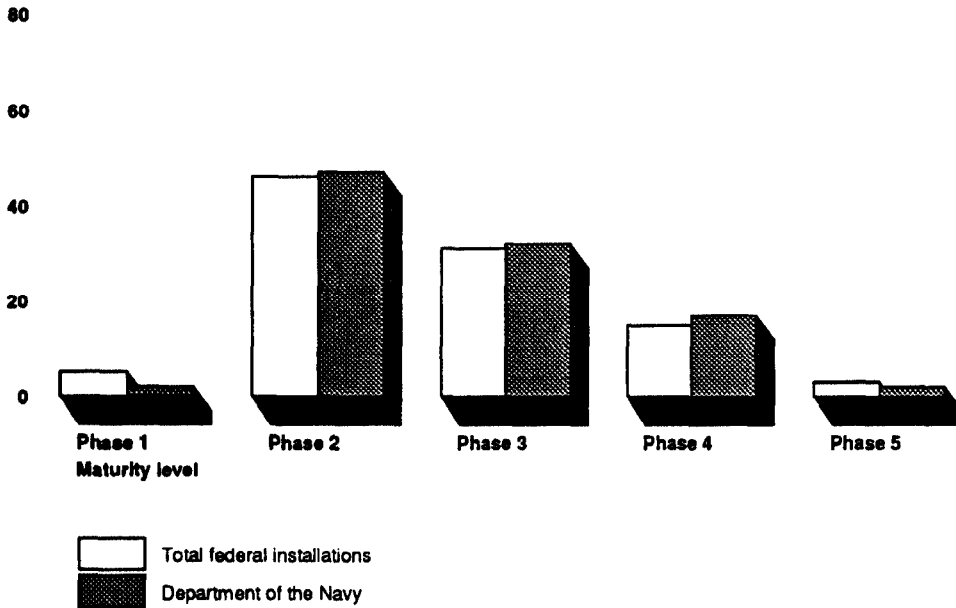


In our survey of federal installations, we asked respondents about the extent of their involvement in 43 activities commonly undertaken by organizations involved in TQM. Such activities include providing training in TQM tools for employees, establishing quality councils or steering groups, and establishing problem-solving teams. Installations reported that their involvement in these activities increased as maturity increased. In other words, installations identifying themselves as more mature in TQM also more frequently said they were doing the 43 activities commonly associated with TQM.
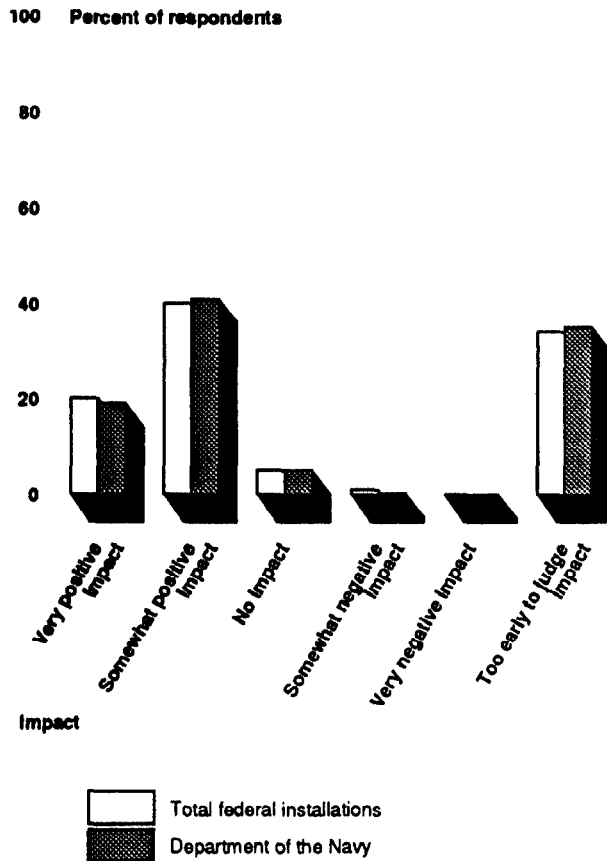
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Comparing Navy installations' involvement in these activities with reported maturity phases, we discovered that the Navy generally reflected the same trend as in the total survey--that is, as Navy installations' maturity increased, they more frequently reported doing TQM activities. For example, 36 percent of the combined Phase 1 and Phase 2 installations provided training in TQM tools for employees, whereas 91 percent of the combined Phase 4 and Phase 5 organizations provided such training.
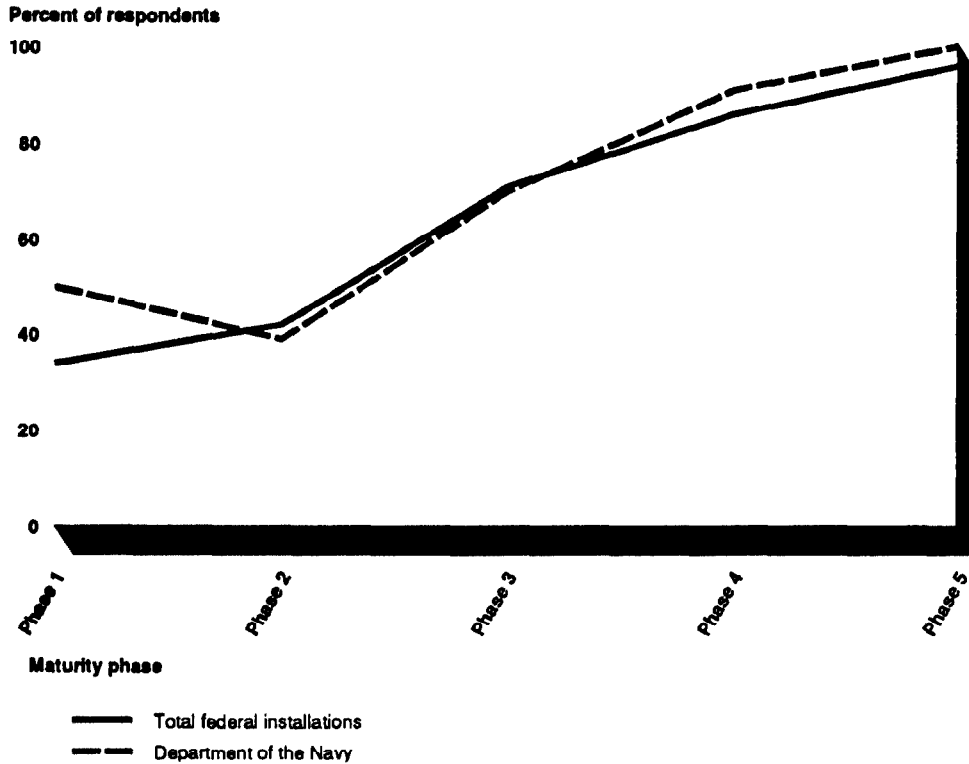

## BENEFITS OF TQM

We considered benefits in two ways: (1) effect on external customers as reflected by overall organizational performance and (2) effect on internal customers as reflected by internal operating conditions. We asked respondents to assess TQM's effect on organizational performance in terms of productivity, reductions in costs, quality of products and services, overall service to customers, customer satisfaction, and timeliness. To depict the overall impact, we developed an index that is the average of responses to our questions on the degree of impact. Figure 4 compares Navy and total federal responses and shows that about 60 percent of the Navy installations reported positive benefits, very few saw either no impact or a somewhat negative impact, and about 35 percent felt it was too soon to judge benefits. These results were nearly identical to the overall survey results.

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## Figure 4: Impact of TQM on Performance

**100  Percent of respondents**

**80**

**60**

**40**

**20**

**0**

Very positive impact

Somewhat positive impact

No impact

Somewhat negative impact

Very negative impact

Too early to judge impact

**Impact**

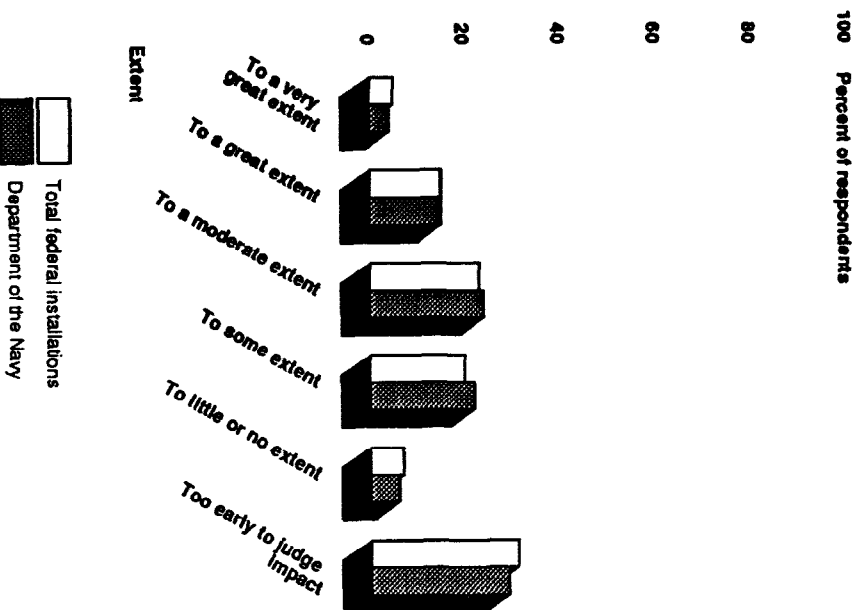☐ Total federal installations

▨ Department of the Navy

Reported benefits increased as maturity increased. We compared the composite index of responses on external benefits with maturity phases and learned that more mature installations reported greater benefits. Figure 5 shows, by maturity phase, the percentage of total federal respondents and the Navy respondents reporting somewhat positive to very positive benefits. Again, we found Navy results were similar to total federal results.

## Figure 5:  Respondents Reporting Increased Organizational Performance

**Percent of respondents**



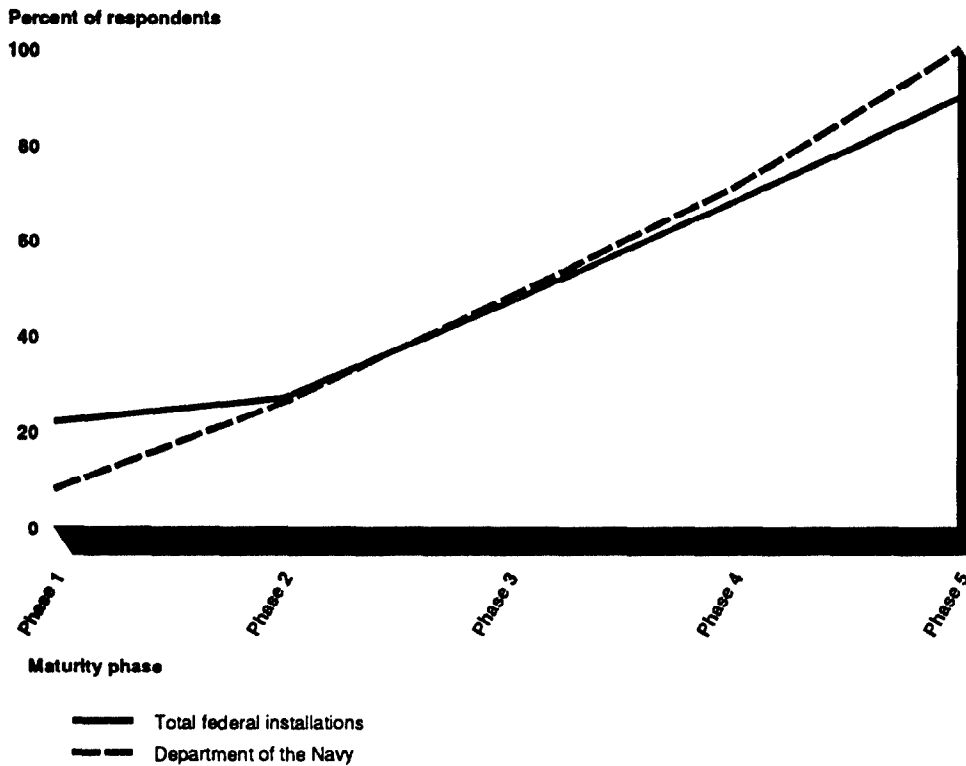Total federal installations

Department of the Navy

For internal operating conditions, we asked the installations to identify the impact of TQM on each of 13 internal operating conditions, such as communications and labor-management relations.  To illustrate the benefits, we developed an index in the same manner as for the organizational performance indicators. Figure 6 compares the Navy and total federal responses and once again shows that Navy installations generally reported about the same benefits as the total of all surveyed federal installations.

## Figure 6: Extent of Positive Impact on Internal Operating Conditions



Percent of respondents

100

80

60

40

20

0

Extent

To a very great extent

To a great extent

To a moderate extent

To some extent

To little or no extent

Too early to judge impact

Total federal installations

Department of the Navy

In a manner similar to the overall organizational benefits, we compared the composite index of benefits with maturity phases and noted that reported internal conditions improved as maturity increased. Figure 7 shows the percent of respondents reporting a moderate to very great positive impact, by maturity phase, for both the Navy and the total federal respondents. Again, the results were remarkably similar.

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## Figure 7: Respondents Reporting Positive Impact on Internal Operating Conditions

**Percent of respondents**



- Total federal installations
- Department of the Navy

## BARRIERS TO TQM

We asked all the federal installations we sent our recent survey to about the significance of 21 potential barriers to implementing TQM that had been identified through our research. Nine barriers were said to be moderate to very major problems by 39 percent or more of the total federal respondents.

Figure 8 shows that Navy respondents generally concurred with the category of barriers identified in the total federal survey and the percentage of Navy and total federal respondents who reported these categories were barriers. It should be noted that many of

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the top nine barriers reported by the total federal respondents were related to employee issues, such as (1) employees do not believe they are empowered to make changes, (2) employees lack sufficient information on how to use TQM tools, and (3) employees lack information and training on TQM concepts and theory.

Figure 8:  Respondents Reporting Barriers Were Moderate
to Very Major Problems to Implementing TQM

**100   Percent of respondents**



**Barriers**

☐ Total federal installations
▓ Department of the Navy
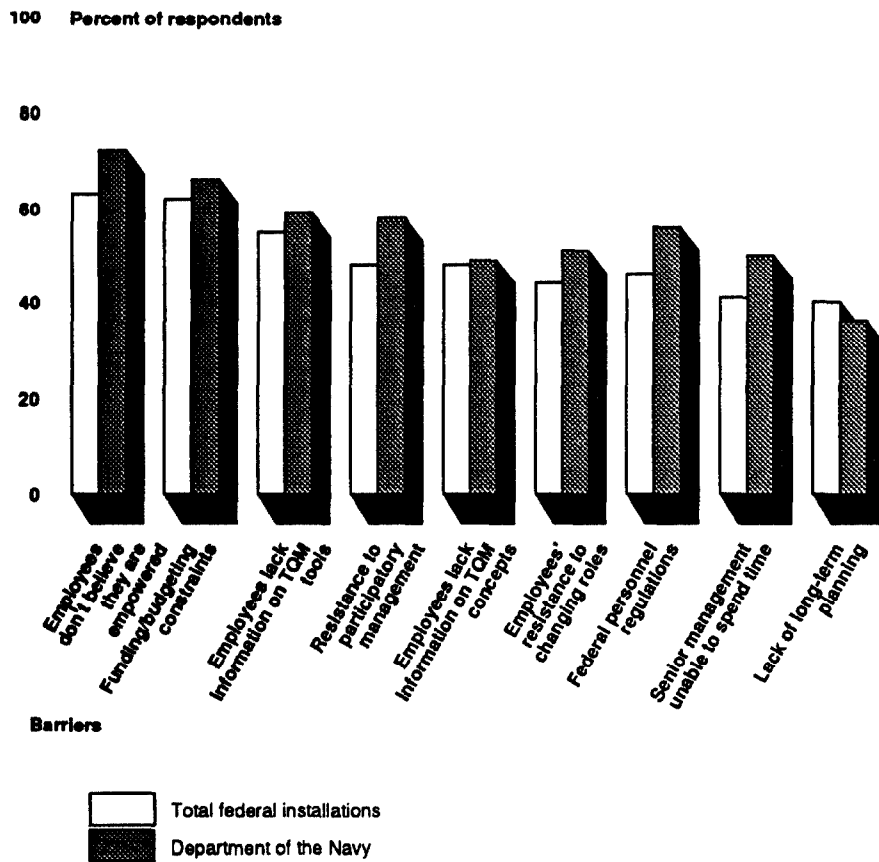
Eight of the Navy's top nine barriers were also among the top nine barriers reported by all federal respondents.  The barrier
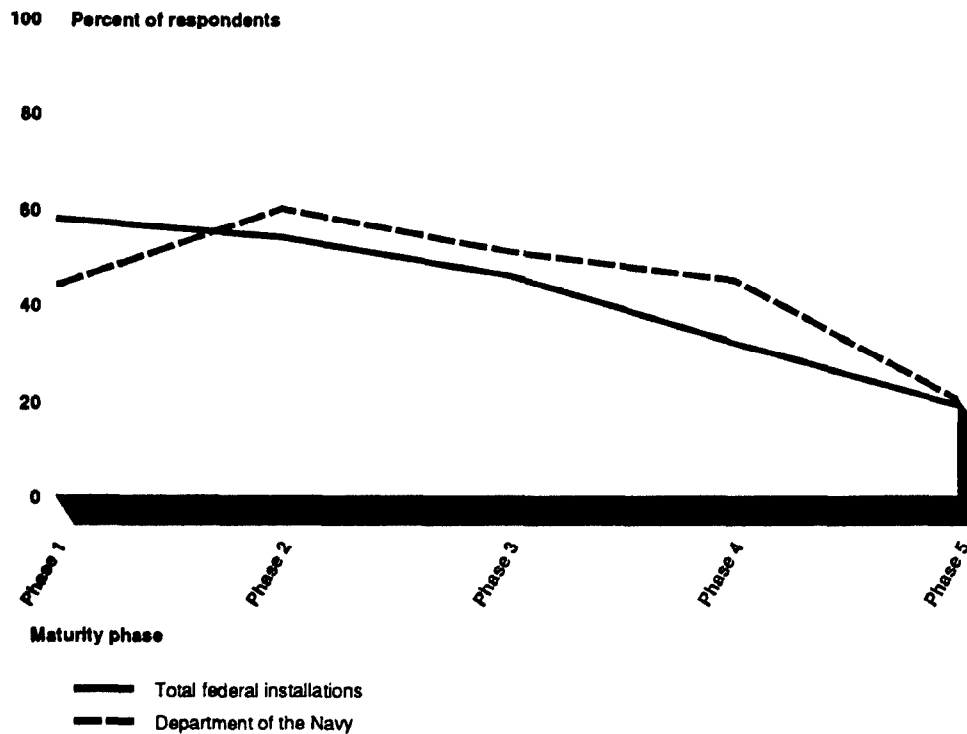
reported among the Navy's top nine that was not included in the overall top nine was resistance to measuring processes. Table 1 lists the top nine barriers reported by Navy respondents.

Table 1: The Top Nine Barriers Reported by Navy Respondents as Moderate to Very Major Problems

| Barriers to implementing TQM | Percent |
|---|---|
| 1. Employees do not believe they are empowered to make changes. | 72 |
| 2. Funding/budgeting constraints. | 66 |
| 3. Employees have insufficient information on how to implement TQM and use TQM tools. | 59 |
| 4. Resistance to moving toward a participatory style of management. | 58 |
| 5. Problems due to federal personnel regulations. | 56 |
| 6. Employees' resistance to changing roles or changing organizational structures. | 51 |
| 7. Senior management at the installation unable to spend sufficient time on TQM. | 50 |
| 8. Resistance to measuring processes. | 50 |
| 9. Employees have insufficient information and training on the theory, concepts, and design of TQM. | 49 |

Figure 9 shows a composite index comparing Navy responses for the nine major barriers reported by the total federal respondents, by phase. It illustrates that as maturity level increased, both the Navy installations and the total federal installations surveyed viewed barriers as being less troublesome and significant.

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Figure 9: Respondents Reporting Barriers Decreased With Maturity Level

**100   Percent of respondents**

**80**

**60**

**40**

**20**

**0**

Phase 1          Phase 2          Phase 3          Phase 4          Phase 5

**Maturity phase**

━━━━  Total federal installations

━ ━ ━  Department of the Navy

## SUMMARY

Our survey of federal TQM efforts indicated that as installations invested more time and effort in TQM activities, they matured in the implementation of TQM, found that the barriers became less difficult, and reaped greater benefits. Although some differences were reported between Department of the Navy TQM experiences and those of all federal respondents, overall Navy respondents' message generally appeared to be similar.
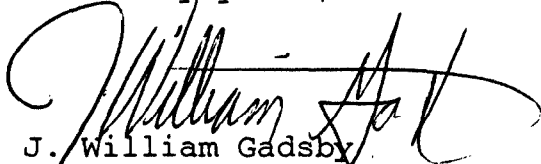
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We have enclosed a copy of our report <u>Quality Management: Survey of Federal Organizations</u> (GAO/GGD-93-9BR, Oct. 1, 1992) to provide information on the background; results; and objective, scope, and methodology of the total survey.

We hope you will find this information useful in guiding your quality management initiatives and in improving service to your customers under today's budget constraints. We will make copies of this correspondence available to others upon request.

The major contributors to this correspondence are listed in enclosure II. If you have any questions, please call me on (202) 512-8387.

Sincerely yours,

J. William Gadsby
Director, Government Business
Operations Issues

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## PHASES OF TQM IMPLEMENTATION

### PHASE 1 - DECIDING WHETHER TO IMPLEMENT TQM

Management is researching or deciding whether to implement TQM, but no formal decisions or activities have been initiated by top management.  A few employees may have attended quality conferences or network meetings, but the installation as a whole has yet to be informed or involved in a TQM project.

### PHASE 2 - JUST GETTING STARTED

TQM efforts are in the early planning and implementation phase. Management has made a formal decision to start TQM and has communicated this to the organization.  The organization's mission and vision have been articulated.  A few quality structures, such as quality councils, steering committees, or teams, have been established, and some awareness training has been given.  Preliminary quality planning has been done.  Pilot programs or newly initiated installationwide efforts to improve quality are included in this phase.

### PHASE 3 - IMPLEMENTATION

Specific TQM processes designed to improve quality are in place. TQM training for management and employees is beyond the orientation/awareness stage and focuses on TQM tools and techniques and team-related activities.  Measures of quality and productivity have been identified and specific goals have been set.

### PHASE 4 - ACHIEVING RESULTS

The installation has a sustained TQM effort and has begun to achieve and document significant results.  Systemic, cross-functional, and/or organizational achievements from the TQM effort have been realized.

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## PHASE 5 - LONG-TERM INSTITUTIONALIZATION

The installation has incorporated all of the principles and operating practices of TQM throughout much of the organization. The installation has documented substantial improvements in quality and customer satisfaction resulting from these efforts and is making consistent and continuous improvement throughout. An installation in this phase may have been recognized as a Quality Improvement Prototype Award winner or may be a recipient of the President's Award for Quality.

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