



Highlights of [GAO-03-57](#), a report to the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate

BEST PRACTICES

Setting Requirements Differently Could Reduce Weapon Systems' Total Ownership Costs

Why GAO Did This Study

For fiscal year 2003, the Department of Defense (DOD) asked for about \$185 billion to develop, procure, operate, and maintain its weapon systems. This request represents an increase of 18 percent since 2001 for the total ownership costs of DOD weapon systems. Often, DOD systems need expensive spare parts and support systems after they are fielded to meet required readiness levels. DOD has been increasingly concerned that the high cost of maintaining systems has limited its ability to modernize and invest in new weapons. This report examines the best practices of leading commercial firms to manage a product's total ownership costs and determines if those practices can be applied to DOD.

What GAO Recommends

GAO recommends DOD (1) revise its guidance for setting requirements to include total ownership cost goals and readiness rates for any major weapons system as performance parameters equal to any others; (2) revise acquisition regulations to require a firm estimate of component and subsystem reliability by the systems integration phase and an estimate of system reliability at the production decision; and (3) structure contracts to ensure proper trade-offs between reliability and performance.

www.gao.gov/cgi-bin/getrpt?GAO-03-57.

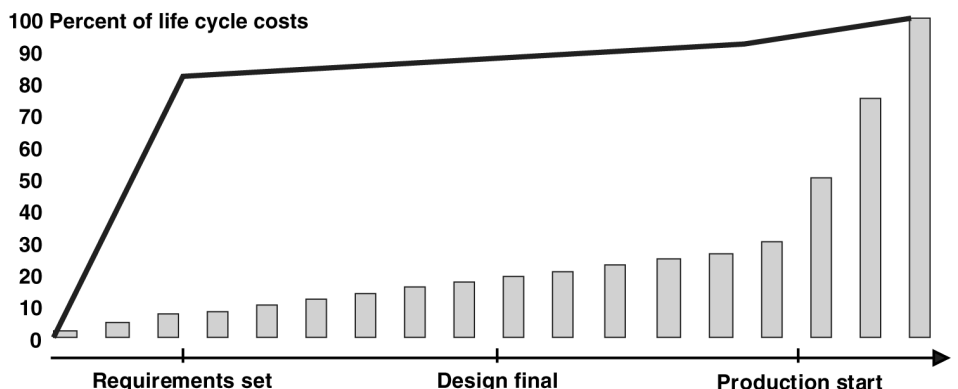
To view the full report, including the scope and methodology, click on the link above. For more information, contact Katherine Schinasi at (202) 512-4841.

What GAO Found

Even though DOD has implemented several initiatives to reduce total ownership costs, some systems, such as the Apache helicopter or the Abrams tank, have experienced costly maintenance problems and low readiness rates, which persisted even after the systems were fielded. We found several reasons for these problems. First, DOD based requirements for weapon systems in product development almost exclusively on technical performance, with little attention to operating and support costs and readiness at the beginning of development when there is the greatest chance of affecting those costs positively. Second, using immature technologies to meet performance goals weakened DOD's ability to design weapon systems with high reliability. Finally, DOD's organizational structure is linear and limits collaboration and feedback among organizations charged with requirements setting, product development, and maintenance.

In contrast, commercial companies that we visited considered operating and support costs to be integral to their new product development decisions. Studies have shown that by the time a product is ready for development, over 90 percent of the operating and support costs have been determined. As a result, these companies required their equipment be easy to maintain, ready when needed, and reliable at a low cost. These requirements were of equal importance to other performance characteristics. After setting requirements, product developers then designed products to meet established reliability rates, using technologies that were proven through past use or testing. At all of the companies we visited, customers and product developers alike, had very collaborative processes and practices that draw extensively on data from past operations to influence the design of new products.

Percent of Life Cycle Costs Determined at Various Points in the Acquisition Process



Legend:
 [Bar] Actual dollars spent
 [Line] Costs determined by decisions on requirements and design

Source: Defense Acquisition University.