



An expert view on defense procurement

In 2009 Bernard Gray, an adviser to the UK Ministry of Defence, wrote a scathing review of UK equipment acquisition. In this interview, he discusses the massive challenges the MOD faces—and how to overcome them.

**David Chinn and
John Dowdy**

In 2008, the UK Ministry of Defence (MOD) commissioned an independent review of the state of its equipment acquisition program. The resulting report, completed after eight months of research, was made public in October 2009 and immediately got the attention of the British media and citizenry. “The problems, and the sums of money involved, have almost lost their power to shock, so endemic is the issue and so routine the headlines,” the report said, declaring the MOD’s equipment program “unaffordable on any likely projection of future budgets.” Perhaps the excerpt most often quoted in press articles is the following: “It seems as though military equipment acquisition is vying in a technological race with the delivery of civilian software systems for the title of ‘world’s most

delayed technical solution.’ Even British trains cannot compete.”

The author of the report is Bernard Gray, a former MOD adviser who had directed the Strategic Defence Review of 1998. Early in his career, Gray spent almost a decade as a journalist for the *Financial Times*, including a stint as the newspaper’s defense correspondent. He is currently chairman of TSL Education, a UK-based publisher of materials for educators. He is continuing to advise the MOD on acquisition reform. In December 2009, Gray spoke with McKinsey’s David Chinn and John Dowdy in London.

McKinsey on Government: *Could you quantify how big the UK’s defense acquisition problem is?*



Bernard Gray: It is a huge cost problem. The exact size depends on what one chooses to include or exclude and what projections one might make about budgets set for the MOD, but it's certainly in the billions of pounds per year and in the tens of billions of pounds in capital risk.

In eight months one can't do everything, so my report is not in any sense comprehensive, nor do I pretend it is. I tried to look at the principal drivers of time, cost, and performance overruns or underperformance. My conclusion was that there is a set of incentives operating at the center of the Ministry of Defence that causes people both to "overprogram"—that is, order more capability than they have the money for—and to systematically underestimate the cost of those capabilities. There are game-theory problems inside this; it's the prisoner's dilemma. The three armed services are competing for scarce resources, and unfortunately it is a stable equilibrium that causes them all to compete with each other rather than cooperate.

McKinsey on Government: *It's a stable equilibrium until the MOD goes broke.*

Bernard Gray: If you have three individuals competing for the same dollar, you might be able to get to a state of play where there is trust among the individuals and each gets 33 cents. But more likely, all three are going to attempt to get the whole dollar, and the most stable state is distrust among the three parties. That's a natural tendency in any government system. And this is an important difference between the performance of the public sector in general and the private sector—you don't have that same revenue constraint bearing down on you all the time. The way incentives are set up in government causes people to behave in ways that are inefficient for the whole group.

Another problem in this case is that the MOD is generating contingent output—fighting capability that may or may not be used at some point in the future. You're not talking about a set of activities that leads to a revenue stream tomorrow or the fulfillment of a revenue stream generated yesterday. Unless one puts constraints around the operation of this game, it will inevitably bias toward increasing cost.

McKinsey on Government: *But surely it's not inevitable that the armed services compete themselves to oblivion.*

Bernard Gray: Well, a knock-on consequence of having this overlarge program is that the aspiration meets an iron gate, which is the amount of cash allocated to the department by the treasury for this purpose every year. If, for example, only two-thirds of the cash requirement for the proposed activity is available, there are only two choices that the system can make: cancel it wholesale, which the system is very reluctant to do for a variety of political reasons, or slow down the rate of cash burned on each of the projects, which has terrible consequences because it's effectively a transfer of resources out of productive output and into unproductive overhead.

A classic case is the construction of the new aircraft carriers. In early 2009, the ministry decided to slow the construction program by two years, but not to remove the people working on the program in the intervening period. So they're carrying two years' worth of not just MOD people, but everybody in industry working on that program and all the capital goods in the shipyards. Our estimates range from £700 million to £1 billion in additional cost—about 20 percent of the program cost, simply as a result of that two-year delay. That's a

particularly large, salient example, but it happens on every program all the time. And of course, delaying a program means you don't have the equipment as soon as you want, so you're forced to spend additional money on maintaining old equipment to keep it in service.

Another problem is that the ministry has a set of contractual relationships with suppliers. When the ministry goes back to a defense company and says, "Can I slow down my rate of cash burn on this program?" the company says, "Of course, but there will be a small additional charge." It's very difficult for the ministry to negotiate that charge. We've estimated the total annual cost of those sorts of problems from roughly £900 million to £2.2 billion. I could have made higher estimates but chose to be conservative.

McKinsey on Government: *How can the MOD break out of this downward spiral? Could you give us a broad overview on what needs to be done now to help deliver equipment on time and on budget?*

Bernard Gray: The first component is to constrain the game. One of my proposals is to have defense reviews on a regular basis. There has been no intrinsic mechanism that keeps the program down to size, so what happens is it grows and grows, then every five or ten years there is an ad hoc defense review that hacks it down to some kind of acceptable size—which is why defense reviews have become associated with cuts. My proposal is to have, in the first session of any new parliament, a defense review process that should be formally and appropriately costed, and that costing should be audited by either a major accounting firm or the National Audit Office. The treasury should then fund that plan, and it should be formally reviewed every five years.

To keep the plan on track between reviews, power needs to be vested in a decision maker capable of defeating the game participants. The only person who can effectively discharge this duty is the permanent secretary, who is in any case formally accountable for the financial performance of the department. The permanent secretary is then assisted by the chief of the defense staff representing the military interest and the finance director of the department representing financial rectitude. Those three people make a program recommendation to the defense board, composed of the armed forces chiefs and senior civil servants, and to the secretary of state as the representative of the political interest. If this group is given the responsibility and power to produce a balanced annual capital plan, which is itself subject to audit and publication, it becomes much more difficult for politicians to interfere with that process. So those are two mechanisms for constraining the size of the program.

McKinsey on Government: *Theoretically, the result would be a balanced strategic plan, which is a great first step. But then the plan needs to be put into action. You've identified some things that currently make it difficult for the MOD to put plans into action.*

Bernard Gray: There used to be a clean distinction between the customer community—the armed services—asking for things and the delivery unit charged with completing the acquisition process, but the lines have become significantly blurred. I've proposed a set of measures to recreate that customer-supplier relationship properly inside the department so that there is an appropriate separation of powers and an attribution of responsibility.

Another major component is the delivery unit itself. About three years ago, the acquisition staff



Bernard Gray



and the support staff—the people responsible for supporting in-service equipment—were merged into a single organization. Advanced private-sector organizations, such as airlines, make decisions on a whole-life cost of a piece of equipment rather than on an initial acquisition cost—so it’s hard to object to the idea of making decisions about the total cost of ownership of a project. Unfortunately, there are a number of problems in the way it’s been done. One is that there is no financial information that allows the delivery unit to make any such choice. Even if it had the capital to be able to say, “We want to spend 20 percent more on initial acquisition in order to cut 30 percent from support costs,” it doesn’t have the data to make the choice. A second problem is that the delivery unit, through historical accident, is now also responsible for strategic communications, the joint supply chain, and naval dock yards. So our first proposal is that those should be hived off into separate entities to allow the integrated project teams (IPTs) to focus entirely on the acquisition and support of particular capabilities.

Another problem is the significant capability deficiencies in the IPT structures at present. In particular we found insufficient financial skills. The costing and estimating groups had been cut down in order to save money.

McKinsey on Government: *It’s ironic, isn’t it?*

Bernard Gray: Yes—a very expensive savings. The ministry can’t do a defense review because, to save money, it sacked all the people who could figure out what things were going to cost. We also found insufficient skills in engineering, project and program management, and general management. We found shortfalls in information systems. There was no consistency; each of the IPTs could pick any project-management tool they chose, which made it very difficult for senior management to have visibility into what was going on in individual projects.

Another thing that’s happened in the past few years is that the delivery unit lost its status as an external agency with a measure of independence from the Ministry of Defence. It is now operating as a wholly owned subsidiary of the ministry, which means it is under the same cash constraints as the ministry.

McKinsey on Government: *What’s the solution, then? What should the ministry do about the delivery unit?*

Bernard Gray: I recommended that the MOD look at the options for the status of the delivery unit over the course of 12 months. I set

out a range of possible alternatives, and I said my favorite option would be to outsource the unit—essentially, to invite a number of qualified major contracting organizations that do not have a conflict of interest to run the unit as a government-owned, contractor-operated entity. This model operates in quite sensitive areas of defense in both the United Kingdom and the United States.

The part of the unit responsible for acquisition has an annual running cost of about £1 billion—that’s for roughly 9,000 people and associated support costs. And they are responsible for managing approximately £13 billion worth of equipment acquisition and support. My interest is not so much in the £1 billion but in the £13 billion. A contracting organization could earn a significant margin by making the system more efficient and effective, with fewer, better people working in it. The ministry would benefit from better management of the £13 billion, which is likely to translate into higher output through more initial acquisition of equipment and a higher state of readiness for existing equipment. There has been some general research that says most outsourcing of government services give rise to between 30 percent and 40 percent productivity gains.

In any case, I recommended that the MOD study the options over 12 months. It has decided not to do that, at least for the time being.

McKinsey on Government: *What’s your reaction to that?*

Bernard Gray: I’m disappointed, because I think the 12 months of study would have brought to light a number of issues that have to do with the relationship between the delivery unit and the central customer organization, how one affords to pay for the up-skilling of the delivery unit, and

how the delivery unit is organized. Unfortunately, the decision that the ministry has adopted at the moment leaves the delivery unit stranded where it is, with no real way forward.

McKinsey on Government: *Your report is done, and the ministry has accepted most of your recommendations. If you had it to do again, would you do anything differently?*

Bernard Gray: If we had more time, I would have looked further into support costs. We looked extensively into initial acquisition costs, but we didn’t have the time to look enough at in-service support costs. Also, I would have liked to have the time and resources to do more international benchmarking on a quantitative basis. We looked qualitatively at what other countries are doing, but some quantitative measurement may well have flushed out some further efficiencies.

McKinsey on Government: *I think every country in the world struggles with delivering equipment on time and on budget. Do you think there are some general truths here about how to do defense acquisition well? What can others learn by studying the UK’s successes and failures?*

Bernard Gray: I know that the critical weaknesses I’ve talked about—misaligned incentives, lack of skills—also apply in the United States, Australia, France, and other Western countries. And these truths apply not only in defense but in other areas of capital-intensive government expenditures; transport systems and health care might be two examples. There are inevitably some differences in the ways that countries operate, but how to constrain incentives inside the game-theory problems on the one hand, and how to get highly skilled people to deliver public services on the other, are enduring questions.

In most areas of public service, salaries are lower and career prospects are not as attractive as in the private sector. All Western economies face significant fiscal pressure over the next decade. What I fear will happen in most advanced economies is not a productivity improvement in the public sector, but an output cut. I think a way forward essentially involves importing private-sector incentives into the delivery of public services.

McKinsey on Government: *In his testimony to the Senate Armed Services Committee last year, Secretary of Defense Robert Gates observed that in the United States there have been nearly 130 studies on defense acquisition since the end of World War II. Why is this so hard to get right?*

Bernard Gray: One can do a certain amount with processes and procedures, as I'm trying to do, but there is also a role for leadership and will. Quitting smoking and staying quit are painful decisions because the benefit lies in the long term. The benefit of having a cigarette, on the other hand, lies in the short term, which is the way human beings tend to work—optimizing their short-term benefit and blinding themselves to the long-term consequences. All armed services around the world are heavy smokers, and getting them to quit is going to continue to be a difficult process. ○