National Audit Office

GUIDE

Initiating successful projects

1 December 2011

Our vision is to help the nation spend wisely.

We apply the unique perspective of public audit to help Parliament and government drive lasting improvement in public services.

The National Audit Office scrutinises public spending on behalf of Parliament. The Comptroller and Auditor General, Amyas Morse, is an Officer of the House of Commons. He is the head of the NAO, which employs some 880 staff. He and the NAO are totally independent of government. He certifies the accounts of all government departments and a wide range of other public sector bodies; and he has statutory authority to report to Parliament on the economy, efficiency and effectiveness with which departments and other bodies have used their resources. Our work led to savings and other efficiency gains worth more than £1 billion in 2010-11.

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Introduction

The National Audit Office exists to provide independent opinion and evidence to assist Parliament hold government to account. We can only do this effectively if we comment objectively and independently on what government does, and we cannot therefore act as an adviser on specific decisions government takes. We can, however, reasonably and helpfully draw on our value for money studies to help public bodies to make sensible decisions and routinely deliver government objectives in an efficient and effective manner.

In this guide we highlight National Audit Office reports which illustrate the different approaches departments take to initiating projects. We show how they develop a realistic understanding of the risks, benefits and deliverability of projects. The reports can be found at www.nao.org.uk/publications.

Summary

In the last three years the National Audit Office has examined some 40 major government projects, a number comparable to previous years. One clear lesson we have learned from the evidence base which our back catalogue provides is that the quality of project initiation is highly predictive of project success. We are therefore re-focusing our studies earlier in the project lifecycle to better assess the quality of, and to influence successful, project initiation. We will follow these early interventions with results based studies as the project rolls out. In preparing this Guide, and undertaking our evaluation work, we find it helpful to focus on a few key elements which, in our experience, have affected project delivery. These are:

- **Purpose** – having clarity on the overall priorities and desired outcomes;
- **Affordability** – understanding what delivery will cost and not being over-optimistic;
- **Pre-commitment** – having robust internal assessment and challenge to establish if the project is feasible;
- **Project set-up** – the detailed specification, procurement, contract and incentive design; and
- **Delivery and variation management** – maintaining delivery pressure throughout the life of the contract and flexibility to recover the integrity of the project in light of unanticipated events or significant variations from the original plan.

This will not come as a surprise to experienced project delivery professionals. However, our examination of central government projects repeatedly shows that too few projects bring all of these factors together well. This Guide sets out some of the key elements we will look for in the studies that we undertake early in the project lifecycle. It draws on our previous reports to highlight the impact these have on the successful delivery of projects.

Initiating successful projects

Where public sector projects are delivered well the results are impressive. The progress of the Olympics construction programme[1] and the introduction of the Asset Protection Scheme[2] are good examples. However, the evidence shows that two-thirds of public sector projects are completed late, over budget or do not deliver the outcomes expected. Some are cancelled before they are completed after spending considerable sums of money with little to show for it.[3] Poorly performing projects reflect badly on government, attract high media interest and are poor value for money for the taxpayer. The track record of project delivery in the private sector is equally mixed.

Examples of good project planning

Preparations for the London 2012 Olympic and Paralympic Games: Progress report December 2011[1] – The Olympic Delivery Authority developed a robust procurement policy and process, including change control, and actively sought independent and expert challenge of its procurement activities. The Authority has also established financial incentives for the contractors to deliver ahead of time and under budget. As at November 2011 the Delivery Authority was on track to deliver its work on the Olympic Park on time, within budget and to the standard required.

Support to business during a recession[2] – the Department for Business, Innovation and Skills took a conservative approach to risk, for example in pricing products, capping liability and limiting eligibility. With the exception of one riskier scheme, this allowed it to provide fast support to business whilst protecting the taxpayer from the associated uncertainty.

Department for Work and Pensions implementation of Employment and Support Allowance[3] – The complex programme was on track for completion on time and under budget, helped by phased implementation, strong monitoring and risk management processes, collaborative contractor relations, experienced staff, and buy-in from staff and senior management.

The Procurement of the National Road Telecommunications Service[4] – the Highways Agency negotiated a private finance deal that transferred some key risks to the private sector: when we reported some risks had already materialised and been borne by the contractor, not the taxpayer.

The BBC's Efficiency Programme[5] – clear monitoring processes and accountabilities created strong incentives to deliver savings, and the BBC is on track to exceed its target of delivering £487 million sustainable, cash releasing net savings by 2012-13.

The Academies Programme[6] – investing time to understand stakeholder needs at the design stage helped deliver one of the programme's key aims; good quality school buildings.

NOTES

1 Preparations for the London 2012 Olympic and Paralympic Games: Progress report December 2011, HC 1596, Session 2010-12

2 Support to business during a recession (HC490 2009-10)

3 Department for Work and Pensions Information technology Programmes (Memorandum to House of Commons Work and Pensions Committee, November 2008)

4 The Procurement of the National Road Telecommunications Service (HC340 2007-08)

5 The BBC's Efficiency Programme (Report to the BBC Trust, September 2011)

6 The Academies Programme (HC254 2006-07 and HC288 2010-11)

1 Preparations for the London 2012 Olympic and Paralympic Games: Progress report December 2011, HC 1596, Session 2010–12.

2 The Asset Protection Scheme (HC 567, 2010-11).

3 Failure of the Fire Control Project (HC 1272, 2010–12).

Major public sector projects are inherently risky. They often run over long timescales and are of a significant scale, ambition and complexity. Typically they involve multiple stakeholder groups with conflicting interests. Political imperatives can lead to challenging timescales and the failure to manage political and public expectations compounds the risks. The establishment of the Major Projects Authority in the Cabinet Office is a positive step, as are plans for a Major Projects Academy.

The delivery of public sector projects can be adversely affected by optimism bias. We have identified two main explanations. Technical causes comprise imperfect forecasting techniques, mistakes, inadequate data, and the obvious problems in predicting the future.[4] A lack of objectivity and rigour in rational thinking can result in the over-estimation of benefits and under-estimation of costs.[5] Often such biases are strategically motivated in order to increase the likelihood that a project gains funding.[6]

Our work shows that very few projects do enough feasibility work to develop a robust understanding of what is needed, if this is deliverable and how much it will cost. Departments should make the most of their power to set the framework for successful delivery. Striking strong and appropriate deals with contractors can put in place the necessary arrangements to enable them to run the project effectively.

Drawing on our extensive back catalogue of reports and understanding of current thinking in the project delivery professions, we have distilled a few of the key lessons that must be addressed when initiating projects. Applying these elements effectively will boost the chances of successfully delivering the project.

4 PFI in Housing (HC 71, 2010-11).
5 Management of the Typhoon Project (HC 755, 2010-11).
6 Delivering multi-role tanker aircraft capability (HC 433, 2009-10).

Five key elements for initiating successful projects

1 Purpose

Are priorities and desired outcomes realistic and understood?

Are the aspirations for what the project should deliver realistic?

Have stakeholders been engaged and their expectations managed?

2 Affordability

Is the budget available realistic?

Has sufficient allowance been made for optimism bias and risk?

Are leaders creating the conditions for success?

3 Pre-commitment

Is the project realistic and feasible?

Have alternative ways to achieve the outcomes and the flexibility of solutions been considered?

Is the level of risk understood?

Does it match the departmental risk appetite?

Has the idea been tested?

4 Project Set-up

Is there a clear specification of business requirements?

Does the procurement strategy identify who is best placed to manage risk?

Has the department mitigated the risks from skills shortfalls which may affect its ability to act as an intelligent client?

5 Delivery & Variation Management

Do the contractual terms incentivise good behaviours, delivery and innovation at a realistic level and offer flexibility and break points?

Is there sufficient openness and data sharing to deal with changes?

Are suitable governance and performance management systems set up?

The elements are inter-related. A driver in the success of projects is the way public bodies balance the inevitable tensions between the elements and plan to deal with the turbulence that affects most projects. The elements are set out below.

1 Setting realistic priorities and desired outcomes

Delivering public sector projects involves aligning the, often conflicting, aspirations and interests of a wide variety of groups including politicians, senior management, users, citizens and commercial providers. Failure to understand the end customers' needs may result in missed opportunities,[7] while a lack of buy-in from staff can be detrimental to the smooth implementation of the project.[8]

In order to avoid unrealistically high expectations, departments need to improve their strategies for reconciling these conflicting perspectives and manage expectations about what is achievable. Seeking to achieve "gold-plated" outcomes drives up cost and increases project risk. Illustratively, scaling back on the aspiration of a project by 20 per cent can reduce cost and risk exposure by 80 per cent. From our experience, the unwillingness of the various parties with an interest in the project to accept this 80:20 philosophy is at the heart of many of the difficulties on which we have reported.[9]

2 Affordability

The trick to secure funding for public sector projects is to demonstrate that they are affordable. In Civil Service terms this translates as there being "budget capacity". There is a strategically motivated perverse incentive to under-estimate costs to secure funding which is compounded by the optimism bias endemic in the public sector. Given that projects are seldom cancelled once they are underway the result is that projects are delayed or de-scoped or that progressively more financial pain is felt by other projects as the department tries to juggle its unaffordable portfolio.[10] Neither solution is efficient or effective.

Leaders, whether senior professionals, civil servants or politicians, not only take the key decisions to initiate and commit to projects, but also create the conditions for success or failure. Without certainty of funding provision or clarity about the priority of the project within the overall portfolio, project teams will not have a firm basis to deliver the project.[11]

3 Pre-commitment – internal assessment and challenge

We have reported regularly on overambitious projects which have not met policy aspirations.[12] Our reports show that departments commonly embark on projects without developing a rigorous understanding of the feasibility of delivery and without a robust process to enable evaluation of the pros and cons of alternative solutions. Alternative ways of achieving the outcome are ruled out too early[13] and the focus is too often on delivering an output quickly.

Public bodies need to understand, at a strategic level, their appetite for risk on individual projects or across their portfolio of projects.[14] Understanding the risks associated with alternative options is of equal importance.[15] Piloting is an important way of evaluating options early to avoid waste, but it is only effective if well designed and if departments are willing to learn from the results.[16]

7 Helping over-indebted consumers (HC 292, 2009-10).
8 Crown Prosecution Service: the introduction of the Streamlined Process (HC 1584, 2010-12).
9 The Cost-Effective Delivery of an Armoured Vehicle Capability (HC 1029, 2010-12).
10 Carrier Strike (HC 1092, 2010-12), Successive Ministry of Defence Major Projects Reports (e.g. HC 1520-I, 2010-12).
11 Carrier Strike (HC 1092, 2010-12).
12 Failure of the Fire Control Project (HC 1272, 2010-12), The Administration of the Single Payment Scheme by the Rural Payments Agency (HC 10, 2007-08, HC 880, 2008-09 and HC 1631, 2005-06).
13 Procurement of the M25 Private Finance Contract (HC 566, 2010-11).
14 Home Office Management of Major Projects (HC 489, 2009-10).
15 Delivering Multi-Role Tanker Aircraft Capability (HC 433, 2009-10).
16 Support to Incapacity Claimants through Pathways to Work (HC 21, 2010-11).

Failure of the Fire Control Project (HC 1272, 2010–12)

The Project aimed to improve the resilience, efficiency and technology of the Fire and Rescue Service by replacing 46 local control rooms with a network of nine purpose-built regional control centres. The project relied on support from the Fire and Rescue Services, but the Department for Communities and Local Government initiated the project without securing their commitment or providing incentives for them to use the regional facilities. The Department also failed to build suitable incentives into the IT contract. It did not retain enough control over key outputs, and did not set interim milestones to hold the contractor to account. The regional control centres remain empty and the Project has wasted a minimum of £469 million.

4 Project set-up – the lead up to binding commitment

Before committing to a project departments must undertake a series of tests and processes to ensure that the project is "fit for purpose". Getting the judgements wrong not only reduces the chance of an *efficient* project result (the immediate output with time, cost and performance parameters met) but makes it highly unlikely the project will be *effective* (achieve the policy objectives and longer-term benefits anticipated).

A pre-condition for successfully starting a project and running an effective competition for commercial partners is that everyone involved in delivering the project needs to clearly understand what must be delivered, and when. Immature or incomplete specifications lead to scope creep,[17] confusion across the supply chain[18] and make it difficult to incentivise commercial partners to deliver effectively or to hold them to account for subsequent shortcomings. Developing commonly understood specifications can avoid tying contractors down too early to deliver the wrong things, which can make subsequent change expensive.[19]

Public sector projects are often started quickly to stimulate economic activity or to meet political priorities. It is vital that this pressure does not undermine the public sector negotiating position. If some of these impacts are unavoidable the procurement strategy should flex to take account of them. Building in sufficient flexibility and a prudent level of time and cost contingency to the project to enable it to deal with the greater level of uncertainty and the increased risk and of emerging changes can offer a way of mitigating the impact.

It is also important to be realistic about where the project risks should lie. A contract that tries to transfer inappropriate levels of risk to the contractor may not work as planned. Departments must evaluate who is best placed to manage the risks (and the opportunities) between departments and commercial providers.[20] If a department feels it has more to lose than the contractor it will be pointless paying a cost premium to pass the risk on. A common theme running through our reports is that, irrespective of the contractual terms, the cost and performance risk of project failures reverts back to government when the contract goes wrong because it is reluctant to cancel and recognise failure. The risk increases further when contracts are placed with "special purpose vehicles" which can insulate partner companies from the effects of failure.

17 The BBC's Management of Three Major Estate Projects (Report to the BBC Trust, 30 November 2009).
18 The Failure of Metronet (HC 512, 2008-09) and London Underground PPP: Were they Good Deals? (HC 645, 2003-04).
19 The Administration of the Single Payment Scheme by the Rural Payments Agency (HC 10, 2007-08, HC 880, 2008-09 and HC 1631, 2005-06).
20 The Failure of Metronet (HC 512, 2008-09) and London Underground PPP: Were they Good Deals? (HC 645, 2003-04).

In setting projects up departments should recognise where they have capability gaps. These can include the lack of depth of expertise in commercial, project and programme management, financial management and technical aspects.[21] Sufficient capability in these areas is essential if departments are to act as intelligent clients and deal with their private sector counterparts on an equal footing. Commercial arrangements can be put in place which mitigate the risks. Departments should take a more ruthlessly realistic and modest approach to their capacity and design of projects and the underpinning commercial arrangements in a way which best protects their interests.

The Asset Protection Scheme (HC 567, 2010-11)

Announced in January 2009, the Scheme aimed to provide financial stability by protecting the Royal Bank of Scotland (RBS) against certain exceptional losses. The Treasury considered a variety of options to achieve this including public ownership and purchases of banks' assets. Having opted for an asset protection arrangement, the Treasury maintained flexibility by allowing several months for detailed due diligence before it finalised the agreement. The Treasury designed a series of stress tests to calculate a range of possible losses under different economic scenarios, to help set loss protection conditions at a level that gave RBS an incentive to manage its assets effectively. It took a conservative approach to uncertainties where the Treasury judged RBS had not provided sufficient data, it did not allow assets into the scheme and the risk remained with the RBS. The due diligence period resulted in significantly tighter terms than those originally proposed. We found that, with one exception relating to potential fees, the Treasury had conducted a robust assessment, and while the long term outcome of the scheme cannot be foreseen, it had, to date, contributed to its overriding aim of financial stability.

5 Delivery and variation – maintaining delivery pressure throughout the life of the contract

If departments rigorously apply the four elements for successful project initiation outlined above, managing execution effectively will depend on whether the detailed project arrangements can respond to inevitable changes. Experience of PFI illustrates the effects of not doing so with significant cost escalation due to contract variation during the life of the contracts.[22]

Specific evidence we look for includes whether the commercial and governance arrangements allow enough flexibility to recover the integrity of the project in the light of unanticipated events or significant variations from the original plan as uncertainties or risks crystallise. A strong contract with appropriate break points will incentivise good supplier performance and positive behaviours whilst protecting both contracting parties.[23] Negotiating the inevitable changes on contracts will be more effective where there are "open-book" arrangements which ensure both parties have a full and realistic common understanding of risks, underpinned by robust and up-to-date performance information.

21 PFI in Housing (HC 71, 2010-11), Lessons from PFI and other projects (HC 920, 2010-12).
22 Making Changes in Operational PFI Contracts (HC 205, 2007-08).
23 The Failure of Metronet (HC 512, 2008-09) and London Underground PPP: Were they Good Deals? (HC 645, 2003-04).

The Administration of the Single Payment Scheme by the Rural Payments Agency (HC 10, 2007-08, HC 880, 2008-09 and HC 1631, 2005-06)

The Single Payment Scheme was introduced in 2005 as part of EU reforms to farm subsidies. The Rural Payment Agency experienced serious difficulties administering the scheme in the first two years of its operation. We found it lacked mechanisms to provide early warning of these difficulties: the system was not tested in its entirety before implementation, and there was a lack of reliable data on contractors' progress. Although many of the IT contracts for supporting the Scheme expired in 2009, the high degree of customisation in the systems restricted the Agency's scope to investigate alternative suppliers. Our 2009 report found errors in Scheme data persisted, and the cost of administration had risen by 22 per cent to £1,743 per claim.

Within departments weak governance structures and poor performance management systems have resulted in missed benefits, or escalating costs and timescales.[24] Projects that succeed have strong data systems, oversight of performance throughout the project, and strong accountability for delivery.[25] Successful delivery requires stronger leadership setting the tone by encouraging honesty in estimates, challenging optimism bias and assumptions and being willing to stop projects which no longer make sense.

24 Regenerating the English Coalfields (HC 84, 2009-10), The BBC's Management of Three Major Estate Projects (Report to the BBC Trust, 30 November 2009).
25 The BBC's Efficiency Programme (Report to the BBC Trust, September 2011).

Where to find out more

The National Audit Office website is
www.nao.org.uk

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Design & Production by
NAO Communications
DP Ref: 009782-001

Printed by Precision Printing

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www.nao.org.uk