

Theme - Why IT Projects Fail

UK Country Paper by Steve Doughty

From Failure to Success?

Background

1. At the 3rd Working Seminar on Performance Auditing, held in Slovenia in May 2001, the UK presented a paper on “Why IT Projects Fail”. This work was based on an analysis on NAO and UK Public Accounts Committee (PAC) Reports published in the 1990s, which concluded with a further UK Public Accounts Committee report in 2000 which set out key lessons to be learnt, with recommendations for improving delivery of Government IT enabled projects.
2. Since then there have been a number of UK government and other initiatives aimed at improving success. This paper sets out the key initiatives and reports the NAO view of their success. It also covers work of the NAO to examine successful projects and to identify key success criteria.

UK Public Accounts Committee Report in 2000

3. This report drew on NAO and PAC reports on 25 IT enabled projects from the 1990s. For each project it set out details of the project, the problems experienced, the impact of problems and the lessons learnt. The report identified 48 generic key lessons grouped under four headings:
 - The inception and design of projects
 - Managing projects
 - Relationships with suppliers; and
 - Post implementation issues.
4. The report set out eight key conclusions and recommendations which are reproduced at Annex A.

5. The full paper presented at the seminar in Slovenia in May 2001 is available on the Committee's website at

<http://www.intosaiitaudit.org/pas/010105ukpaperv2.1.pdf>

Common causes of failure

6. Following publication of the PAC report, the UK government implemented a range of initiatives designed to improve project success. An early part of the work was to compile and publicise an agreed UK NAO/ Government list of common causes of failure - set out at Annex B.

NAO Report - Improving IT Procurement

7. In 2004, the NAO undertook an examination to reassess performance of IT enabled projects, to reflect on the IT industry view of why projects fail, and to assess the impact of the initiatives launched by the UK Office of Government Commerce (OGC) to address the causes of repeated failures of IT enabled projects.
8. The OGC has no authority to direct government departments, but encourages them to achieve value for money through its activities. In parallel, the OGC worked closely with representatives from the IT industry to put in place frameworks and mechanisms to establish closer relations and joint working between departments and suppliers. This has also led to initiatives by the supply side to improve success, for example through a supplier code of conduct and capability assessment service.
9. The NAO report examined four major OGC initiatives:
 - The Gateway Review process
 - Centres of Excellence
 - The Successful Delivery Toolkit
 - The Successful Delivery Skills Programme and Project and Programme Management Specialism.

The Gateway Review Process

10. The Gateway process is an independent peer review examination of a project at each critical stage in its lifecycle. The stages are set out in the diagram below.

Gateway Stage	Purpose	Description
Gateway Review 0 Strategic Assessment	Establish business need for programme	Asks how the programme meets the business need that lies behind it. Assesses the capability of those who are responsible for the programme and the support of users and stakeholders.
Gateway Review 1 Business justification	Develop business case	Asks whether the end project is feasible, affordable, and likely to achieve value for money. Also whether the high level plans for achieving it are realistic.
Gateway Review 2 Procurement strategy	Develop procurement strategy	Asks whether the tendering strategy sufficiently reflects business requirements, awareness of the market, good practice on procurement, and changes to business need. Asks whether funding is available for the whole project, and with adequate financial controls in place.
Gateway Review 3 Investment decision	Competitive procurement	Asks whether the tendering process has met its objectives and followed good practice. Also whether the prospective contractor is likely to deliver

		on time, within budget and achieve value for money. Assesses the readiness of the business to implement the contract.
Gateway Review 4 Readiness for service	Award and implement contract	Assesses whether project plans are up to date and adapted to working successfully with the contractor. Asks whether implementation of the project is going to plan, with any lessons for the business being recorded.
Gateway Review 5 Benefits evaluation (repeated as required)	Closure	Assesses whether expected benefits are being delivered, and what is being done to pursue continued improvements. Asks what contingency plans there are for future changes.

11. Gateway 0 is a repeatable review to ensure that business needs and capability have not changed.

12. The process starts with an assessment of the scale of risk against standard guidance. Reviews for high and medium risk projects are conducted by a team of OGC trained reviewers, independent of the project. The results of the reviews are in the form of a confidential report to the project's Senior Responsible Owner - the individual responsible for the overall success of the programme. Reviews are awarded a red/amber/green rating.

- Red - action on key issues must be taken immediately
- Amber - action on key issues must be taken before the next review
- Green - on track with only minor issues outstanding.

13. A red rating may not necessarily be bad - it indicates that the process is working, but successive red reviews provides a strong mechanism for warning of significant risks requiring immediate action. More recently, the OGC have agreed to notify the NAO, who in turn notify the PAC of projects which receive two successive red ratings.
14. The NAO examination of the process covering the period from June 2002 until March 2004 covered 254 IT enabled projects. 28 percent were rated red, 50 percent amber, and 22 percent green.
15. The review also showed that the process often starts too late in the lifecycle of a project, where past experience has shown that unless tackled early, risks increase and worsen with time. Nearly half of reviews were first time reviews at Gate 2 or Gate 3. Only three percent of reviews were at Gate 5, suggesting that the extent to which projects have delivered their intended benefits has not been evaluated.
16. Analysis of common issues raised in Gateway reviews has remained pretty consistent since the introduction of the process. Reviews examined for the period July 2003 to February 2004 showed the following top issues:

Issue	Percent of reviews raising this issue
Stakeholder issues	70
Roles and responsibilities	68
Skills and resources	65
Risk	63
Business case	58
Benefits	42
Financial issues	36
Interdependencies	28
Market knowledge and procurement	22
Change management	22
Contract management	17

17. The overall NAO conclusion was that:

- Gateways have introduced more rigorous scrutiny into IT enabled programmes and projects, and early enough for remedial action to be taken before risks escalate out of control;
- Reviews have highlighted consistent weaknesses, but unless there is growing evidence that these have been addressed, their recurrence will reduce confidence in the ability to bring about the step change in performance needed;
- Although Gateway review reports are personal for the Senior Responsible Owner, and there are good reasons for this, sharing the lessons, for example, with management boards and suppliers, would enable the action taken as a consequence to be more transparent and allow a joint approach to tackling emerging problems and issues.

Centres of Excellence

18. This initiative was set up to address concerns that increased investment in the public sector was not being matched by improvements in the capacity of the Civil Service to deliver programmes and projects. It required all Departments to establish Centres of Excellence (CoE) to establish the right structures and cultures for successful programme and project delivery by June 2003.

19. The CoE does this by:

- Adopting portfolio management through a single oversight of all programmes and projects
- Embedding key practices through promoting standards, methods, techniques and tools;
- Improving capability and skills by assessing and developing skill levels of those involved.

20. The NAO examined an Office of Government Commerce review of the progress of CoEs. OGC concluded that whilst a quarter of departments had made some good progress in this area, a further quarter were judged as having mixed success. The NAO concluded that it was too early to reach a view on success or otherwise, but recognised that CoEs had the potential to facilitate a step change in the success rate of IT enabled projects.

Successful Delivery Toolkit

21. The OGC's Successful Delivery Toolkit sets out proven good practice for procurement, programmes, projects, risk and service management and brings policy and best practice together in a single point of reference available on the Internet.

http://www.ogc.gov.uk/resource_toolkit_successful_delivery_toolkit.asp

It was also made available on CD-ROM.

22. The NAO undertook a survey of user views of the toolkit on October 2003, and a further review was commissioned by the OGC in early 2004 which confirmed NAO views about the usability of the toolkit and access to its information.

23. The NAO concluded that the toolkit need to be further developed and with better accessibility if it is to be used more widely. Those that were aware of it were satisfied with its contents, but it can be difficult for new or casual users to locate the advice they are seeking.

Impact of OGC Initiatives on Departments

24. The NAO also examined five "mission critical" projects to assess the extent to which OGC initiatives had made a difference to their management in particular, three essential requirements that need to be in place for a project to be successful:

- rigorous challenge and scrutiny of projects and programmes at each stage in their lifecycle;
- highly skilled and capable programme and project managers; and
- effective engagement with suppliers.

25. On rigorous challenge, the main conclusions supported the view that the Gateway process had made a difference:

- project teams generally welcome Gateway reviews;
- Gateway reviews have focussed attention on critical issues;
- senior management oversight has improved;
- monitoring of projects is improving;
- more direct assistance is available to teams ;

- there is closer working between internal audit, Gateway reviews and project teams.

26. On programme and project management, the conclusions were less positive. For example, they supported the views that:

- OGC guidance and advice is comprehensive but can be difficult to access;
- OGC could do more to promote and target its expertise;
- OGC initiatives to develop skills and expertise have had a mixed response.
- Centres of Excellence are becoming increasingly effective and have a pivotal role in promoting success.

Impact on supplier behaviour

27. The OGC has worked closely with industry to create frameworks for better joint working between Departments and suppliers. The most important development has been the strategic relationship between OGC and Intellect, the trade body representing the information technology, telecommunications and electronics industries in the UK. This has provided a framework for initiatives that aim to increase confidence between the sectors.

28. In particular, a Senior IT Forum - sponsored by OGC and Intellect and comprising an equal number of senior representatives from Government and the IT Industry - with the aim of both providing a regular dialogue and undertaking initiatives to build more open relationships so that each side can better understand each other's objectives and environment. The initiatives include:

- Senior Responsible Industry Executive (SRIE) - the industry equivalent of the SRO who works with the SRO to ensure that the two organisations work together to deliver successfully.
- The Government Procurement Code - a code of practice of core values and behaviours for the supply chain, to promote a spirit of partnering in these arrangements.
- The Supplier Code of Best Practice - Ten Commandments to establish standards of professionalism for all suppliers and things they can do to demonstrate that they are competent and effective.
- A "Concept viability" service run by Intellect. Intellect invites a selection of companies to comment on a Department proposal, workshops are facilitated by Intellect who then prepare an assessment based on collated responses from suppliers. This assessment is made available to all suppliers before the start of the official procurement process.

29. However, when the NAO were interviewing staff in departments and suppliers it was noticeable that awareness of these initiatives was low. None of the project teams in the five case studies in the review were aware of the SRIE role, which suggests that the benefits of these initiatives are not filtering down to programme and project teams.
30. The NAO review also recommended that there was a need to better manage the supplier market to ensure both competition and security of supply, and to open the market to smaller organisations.

Delivering successful IT enabled business change

31. In November 2005, the UK Government issued a new strategy - “Transformational Government, Enabled by Technology” which set a renewed objective to deliver new and existing services more efficiently and designed around the needs of customers and citizens. Having previously reported many times on what has gone wrong, and made recommendations on how to avoid similar mistakes in future, the UK NAO felt it would be timely to recognise that there had been many successful IT enabled programmes and to demonstrate that by drawing on cases studies from central government, the wider public sector and elsewhere how such successes have been achieved, and to enable lessons from what has gone well to be transferred to new programmes and projects in government.
32. We examined 24 examples of successful projects (8 from British central government departments and agencies, 7 from the wider UK public sector, 4 from the private sector in the UK, and 5 from the public sector overseas). We also held workshops with suppliers, and consulted with central government, industry and academics to identify recurring themes in successful programmes and projects.

Key Themes of success

33. Three key themes emerged:
- the level of engagement by senior decision makers;
 - organisations’ understanding of what they needed to do to be an “intelligent” client;
 - their understanding of the importance of determining at the outset what benefits they were aiming to achieve, and importantly, how programmes and projects could be actively managed to ensure these benefits were optimised.

Nine Recommendations - key questions for departments

34. Through this work we identified 9 key questions for Departments embarking on major IT enabled business change, under the three themes:

	Ensuring Senior Level Engagement
1.	Is the Board able to make informed judgements about the department's capacity to manage change?
2.	Does the department have in place a decision making structure that will ensure strong and effective leadership of the IT enabled business change?
3.	What incentives exist to drive performance?
	Acting as an intelligent client
4.	Does the department have the necessary programme management skills?
5.	What is the natural division of duties between the Programme and Project Management Centre of Excellence and the Chief Information Officer?
6.	How will the department establish and promote an open and constructive relationship with suppliers?
7.	How clear is the department about the business process that it is seeking to change or develop?
8.	Does the technology exist to deliver the change?
	Realising the benefits of change
9.	Beyond immediate technical success, how will wider benefits be secured?

Are lessons being learnt?

35. As part of the work we undertook a survey of Senior Responsible Owners and Centres of Excellence in Departments to ascertain whether the recommendations for our earlier work had achieved any impact, and whether the key questions, under the key themes, we identified above were effective. We found that:

Are departments equipped to deliver senior level engagement?

- 76% of SROs discussed progress with their Accounting Officers at least once a month
- 52% of SROs met their Minister at least quarterly (21% never did)
- 75% of SROs spent a minority of their time on the role
- 53% of SROs were on their first SRO assignment
- 42% of Audit Committees were not briefed on the results of gateway reviews

Are departments equipped to act as intelligent clients?

- 58% of SROs meet their CIO at least monthly
- 38% of SROs have no involvement with their Centre of Excellence
- 71% of Centres of Excellence were concerned about “lack of skills”
- 23% of Centres of Excellence were concerned about “lack of understanding of and contact with the supply industry at senior levels in the organisation”
- 80% of SROs had involved suppliers in their last Gateway review

Are departments realising the benefits of change?

- 42% of Centres of Excellence were concerned about “lack of effective engagement with stakeholders”
- 4% of 720 Gateway reviews carried out between June 2002 and June 2006 were at Gateway 5 (benefits evaluation)

Conclusion

36. The results of the survey were mixed, but there are some positive signs that lessons are being learnt and that this will lead to greater IT enabled programme and project success (and less failures) in future.

Overall conclusion

37. Although there are signs that UK Government initiatives are beginning to work, and early signs that success rates are improving, awareness of a number of them is not as high as it should be and a great deal of further work is needed to embed the changes to make them

part of the normal programme and project management process. A major difficulty remains with the “skills gap”, where, given the UK Transformational Government strategy, the programme of IT enabled change is expanding, but the government has insufficient skilled and experienced staff to manage the increasing volume of work.

Issues for country papers

38. In preparing country papers, SAIs are asked to consider the following issues:

- What action has been taken to improve IT enabled programme and project success? How is success measured?
- Have you undertaken any work to define the characteristics of successful projects? Are there any success themes or factors or key questions that can be added to those set out in the NAO UK paper?
- How does your country share experiences (both good and bad) across departments and ensure that all learn from the experience of others?
- Have your audit reports resulted in a notable improvement in success rates? How have you achieved this?
- Does your SAI review projects throughout their lifecycle, or only when complete? Does your audit cover all components, including IT as it the UK, or only the IT component?
- Does your SAI have a standard audit programme for review of IT enabled projects? Can it be shared with other SAIs?
- Looking at IT enabled projects and programmes, what areas do you find the most difficult to audit, and why?

UK Public Accounts Committee Report in 2000 - Keys conclusions and recommendations

- Decisions about IT are crucial to the development and success of the business of public bodies, and cannot be treated in isolation from other aspects of their work. Failure to deliver an IT system can have a profound effect on an organisation's ability to provide services to its customers. Key decisions on IT systems are, therefore, business decisions, not technical ones, and should involve senior management. And the commitment of senior management can be a critical factor in securing a successful outcome.
- Projects are conceived and grow from identified business needs. However, what seems a clear objective at the beginning can easily become blurred and confused as events progress. The end users must be identified before the project commences so that their needs are taken into account fully during design and development.
- The scale and complexity of projects is a major influence on whether they succeed or fail. Departments should consider carefully whether projects are too ambitious to undertake in one go. This consideration is particularly important if a project connects with the business operations of other parties, or depends on the development of IT undertaken by other parties.
- The management and oversight of IT projects by skilled project managers is essential for ensuring that projects are delivered to time and budget. But the successful implementation of IT systems calls for imagination and well-conceived risk management, as well as sound project management methodologies.
- The increasing use of complex external contracts for the delivery of major public sector IT projects and the supply of strategic IT services has highlighted the need for a high degree of professionalism in the definition, negotiation and management of IT contracts. It is essential that public sector bodies get the right contracts in place. With large sums of public money at stake, any lack of clarity, or debatable interpretation in a contract can lead to expensive misunderstandings that might have to be resolved in the courts.
- The implementation of an IT system is not an end in itself. It is important that sufficient attention is paid to ensuring that staff know how to make full and proper use of it. Without this it is unlikely that the anticipated business benefits will be realised. Training of staff can take up considerable resources, often a significant proportion of the overall cost of the project. Training must address the needs of users, and of those operating and maintaining the system.
- As well as wasting enormous sums of public money, failures in IT can have disabling impacts on public services and on citizens. These have included the failure to pay social security benefits to vulnerable people and major delays in issuing people their passports. In addition to planning and managing projects positively, Departments should therefore have contingency plans in place to maintain adequate levels of service in the event of project failures.

- It is essential that organisations learn lesson from the projects undertaken. A post-implementation review is designed to establish the extent to which they have secured the business benefits anticipated. The review may encompass whether the project has met its business objectives, user expectations and technical requirements

NAO/OGC AGREED LIST OF COMMON CAUSES OF PROJECT FAILURE

1. Lack of clear link between the project and the organisation's key strategic priorities, including agreed measures of success.
2. Lack of clear senior management and Ministerial ownership and leadership.
3. Lack of effective engagement with stakeholders.
4. Lack of skills and proven approach to project management and risk management.
5. Too little attention to breaking development and implementation into manageable steps.
6. Evaluation of proposals driven by initial price rather than long-term value for money (especially securing delivery of business benefits).
7. Lack of understanding of and contact with the supply industry at senior levels in the organisation.
8. Lack of effective project team integration between clients, the supplier team and the supply chain.

QUESTIONS TO ASK

1. **Lack of clear link between the project and the organisation's key strategic priorities, including agreed measures of success.**
 - Do we know how the priority of this project compares and aligns with our other delivery and operational activities?
 - Have we defined the critical success factors (CSFs) for the project?
 - Have the CSFs been agreed with suppliers and key stakeholders?
 - Do we have a clear project plan that covers the full period of the planned delivery and all business change required, and indicates the means of benefits realisation?
 - Is the project founded upon realistic timescales, taking account of statutory lead times, and showing critical dependencies such that any delays can be handled?
 - Are the lessons learnt from relevant projects being applied?

- Has an analysis been undertaken of the effects of any slippage in time, cost, scope or quality? In the event of a problem/conflict at least one must be sacrificed.

2. Lack of clear senior management and Ministerial ownership and leadership.

- Does the project management team have a clear view of the interdependencies between projects, the benefits, and the criteria against which success will be judged?
- If the project traverses organisational boundaries, are there clear governance arrangements to ensure sustainable alignment with the business objectives of all organisations involved?
- Are all proposed commitments and announcements first checked for delivery implications?
- Are decisions taken early, decisively, and adhered to, in order to facilitate successful delivery?
- Does the project have the necessary approval to proceed from its nominated Minister either directly or through delegated authority to a designated SRO?
- Does the Senior Responsible Owner (SRO) have the ability, responsibility and authority to ensure that the business change and business benefits are delivered?
- Does the SRO have a suitable track record of delivery? Where necessary, is this being optimised through training?

3. Lack of effective engagement with stakeholders.

- Have we identified the right stakeholders?
- In so doing, have we as intelligent customers, identified the rationale for doing so (e.g. the why, the what, the who, the where, the when and the how)?
- Have we secured a common understanding and agreement of stakeholder requirements?
- Does the business case take account of the views of all stakeholders including users?
- Do we understand how we will manage stakeholders e.g. ensure buy-in, overcome resistance to change, allocate risk to the party best able to manage it?
- Has sufficient account been taken of the subsisting organisational culture?
- Whilst ensuring that there is clear accountability, how can we resolve any conflicting priorities?

4. Lack of skills and proven approach to project management and risk management.

- Is there a skilled and experienced project team with clearly defined roles and responsibilities? If not, is there access to expertise, which can benefit those fulfilling the requisite roles?
- Are the major risks identified, weighted and treated by the SRO, the Director, and Project Manager and/or project team?
- Has sufficient resourcing, financial and otherwise, been allocated to the project, including an allowance for risk?
- Do we have adequate approaches for estimating, monitoring and controlling the total expenditure on projects?
- Do we have effective systems for measuring and tracking the realisation of benefits in the business case?
- Are the governance arrangements robust enough to ensure that “bad news” is not filtered out of progress reports to senior managers?
- If external consultants are used, are they accountable and committed to help ensure successful and timely delivery?

5. Too little attention to breaking development and implementation into manageable steps.

- Has the approach been tested to ensure it is not 'big-bang' for example in IT-enabled projects?
- Has sufficient time been built in to allow for planning applications in Property & Construction projects for example?
- Have we done our best to keep delivery timescales short so that change during development is avoided?
- Have enough review points been built in so that the project can be stopped, if changing circumstances mean that the business benefits are no longer achievable or no longer represent value for money?
- Is there a business continuity plan in the event of the project delivering late or failing to deliver at all?

6. Evaluation of proposals driven by initial price rather than long-term value for money (especially securing delivery of business benefits).

- Is the evaluation based on whole-life value for money, taking account of capital, maintenance and service costs?
- Do we have a proposed evaluation approach that allows us to balance financial factors against quality and security of delivery?
- Does the evaluation approach take account of business criticality and affordability?
- Is the evaluation approach business driven?

7. Lack of understanding of and contact with the supply industry at senior levels in the organisation.

- Have we tested that the supply industry understands our approach and agrees that it is achievable?
- Have we asked suppliers to state any assumptions they are making against their proposals?
- Have we checked that the project will attract sufficient competitive interest?
- Are senior management sufficiently engaged with the industry to be able assess supply-side risks?
- Do we have a clear strategy for engaging with the industry or are we making sourcing decisions on a piecemeal basis?
- Are the processes in place to ensure that all parties have a clear understanding of their roles and responsibilities, and a shared understanding of desired outcomes, key terms and deadlines?
- Do we understand the dynamics of industry to determine whether our acquisition requirements can be met given potentially competing pressures in other sectors of the economy?

8. Lack of effective project team integration between clients, the supplier team and the supply chain.

- Has a market evaluation been undertaken to test market responsiveness to the requirements being sought?
- Are the procurement routes that allow integration of the project team being used?

- Is there early supplier involvement to help determine and validate what outputs and outcomes are sought for the project?
- Has a shared risk register been established?
- Have arrangements for sharing efficiency gains throughout the supply team been established?

If any of the answers to the above questions are unsatisfactory, an acquisition-based project should not be allowed to proceed until the appropriate assurances are obtained.

Explanatory Notes

- An acquisition-based project is one which has a significant element dependent on the supply of goods and/or services by a third party supplier or suppliers. Whilst it is not essential for the goods or services to be provided by a single supplier, the contribution of the third party supplier or suppliers should be considered significant if a failure to deliver on their part attracts public criticism.
- A high-risk project is one which scores 41 or more against OGC's Gateway Risk Potential Assessment framework.
- A project is defined as a unique set of co-ordinated activities with a finite duration, defined cost and performance parameters and clear outputs to support specific business objectives.
- By value for money is meant "the optimum combination of whole-life cost and quality, fitness for purpose to meet user requirements" (Government Accounting).