OECD

OECD Public Management Policy Brief

The Hidden Threat to E-Government

Avoiding large government IT failures

Governments fail…

Most governments experience problems when implementing large IT projects. Budgets are exceeded, deadlines are over-run and often the quality of the new system is far below the standard agreed when the project was undertaken.

Moreover, governments are not alone in failing. Evidence suggests that private sector companies have similar problems. The Standish Group, for example, estimates that only 28% of all IT projects in 2000 in the US, in both government and industry, were successful with regard to budget, functionality and timeliness. 23% were cancelled and the remainder succeeded only partially, failing on at least one of the three counts.

Large public IT projects can pose great political risks. Ministers and governments are held accountable for the failures and the accompanying waste of taxpayer money. These significant economic losses comprise not only outright waste in exceeded budgets and abandoned projects, but also – and equally importantly – lost opportunities for enhanced effectiveness and efficiency.

…and e-government is in danger

The inability of governments to manage large public IT projects threatens to undermine efforts to implement e-government. Most OECD Member countries have formulated ambitious action plans for implementing e-government. The aim is to move service delivery to the World Wide Web, to enhance information to citizens and to make public sector workplaces smarter for the benefit of citizens, politicians and civil servants alike.

Unless governments learn to manage the risks connected with large public IT projects, these e-dreams will turn into global nightmares. Governments must get the fundamentals of IT right if they want to harvest the huge potential of going online.

PUMA Policy Brief No. 8

March 2001

How to get IT projects right

Face governance facts

Public sector organisations operate in settings very different from the private sector, and these differences are important for understanding why governments fail and what challenges project managers face.

Change is inherent in implementing public policies. Laws are changed, priorities shift, and implementation accordingly has to adjust. However, changing specifications for IT systems that are under construction is likely to make the systems more complicated, blur agreements with providers and bloat budgets. Small policy changes can require major changes in IT structures.

Similarly, the time allowed for legislation to come into effect is often much too short for proper IT systems to be built and launched. Unrealistic deadlines set by the highest political authorities need to be addressed.

If failure is to be avoided, implementation must be taken into account when policies are formulated. Furthermore, special standards of accountability and transparency apply to the public sector. This means that failure is often widely publicised and that top-level civil servants and politicians are held accountable for very technical projects over which they may have little influence.

In many countries, rapid policy change, higher standards of accountability and short deadlines are unavoidable governance facts. Nevertheless, it might be possible to raise awareness of the interdependency of policy and implementation issues when it comes to e-government. At the very least, risks inherent in the governance settings should be identified and better managed.

Dolphins, not whales

Public sector budgeting systems can encourage the funding of large and highly visible IT projects. Small projects cannot justify “new” funds and do not command attention during budget negotiations. Furthermore, large, expensive and spectacular projects are often favoured because these projects are more easily communicated as evidence of political action and reponse to a problem. This is unfortunate, since the risk of failure is proportional to the size of the project. Very large projects, *i.e.* expensive, long-term and complex initiatives, often fail.

A radical approach, increasingly adopted in the private sector, is to avoid large projects altogether, opting for small projects instead. One expert has called this change a shift from “whales to dolphins”. Adopting dolphins does not mean breaking big projects into small modules. Rather, it involves a shift to a different way of working and thinking, with total project timeframes of no more than six months, technical simplicity, modest ambitions for business change, and teamwork driven by business goals.

Although large IT projects should be avoided wherever possible, government is often very big business. Millions of citizens are served, regulated or taxed, and thousands of employees use the systems. Therefore, it is improbable that all IT projects in the public sector can be made smaller. Where big projects are unavoidable, they should be divided up into self-contained modules that can be adjusted to changes in circumstances, technology and requirements.

Avoid emerging technologies

New technologies are tempting because they often promise better solutions and fascinating possibilities for business change. More often, they promise solutions that enable an organisation to implement IT without changing its business processes. It is therefore not surprising that public sector organisations keep trying to develop systems based on new technologies.

Experience shows, however, that systems built on emerging and unknown technologies are very susceptible to failure. In some instances the potential benefits might warrant taking such huge risks; most often this is not the case.

Risk of failure can be reduced by using well-proven approaches or - even better - standard software, although this will often imply that business processes have to be adapted to the possibilities offered by the IT system. The application of common commercial practice, rather than "custom software", has proven time and again to be the most successful solution.

Where the use of unproven technologies is unavoidable, a testing programme for the new technology in question carried out prior to the contract with the supplier could help identify, assess and manage the risks.

Identify and manage risks

Risk identification and management are paramount features of successful IT project management. Some countries have well-developed guidelines and practices in this field; others still have something to learn.

Independent consultants from outside the administration can help identify risks. The use of such independent reviews at key stages of a project can provide a valuable snapshot of the "health" of the initiative.

However, expert advice only makes sense if project management deals promptly and thoroughly with the issues raised.

It is interesting to note, however, that many failures can be explained by poor compliance with otherwise very good guidelines and existing good practice. Knowledge management and management control systems adapted to the national culture must be in place.

In New Zealand, risk-based funding rules for complex projects have been developed. Using quantitative risk analysis, each risk is assessed along with its impact and probability. Thus, the fiscal impact of a project's risks can be made explicit to decision-makers.

Strengthen leadership and accountability, and focus on business change

There is no such thing as an IT project in isolation. Rather, every IT system should be seen as a tool and means to other ends – notably a change in business processes. IT projects are thus business projects and must be led by top management and not by IT experts.

Leadership is a key issue of project management. Unless a single senior official has final responsibility and is held accountable for the success of a project, the project will most likely fail.

Top management attention is by definition a scarce resource, and often it is not possible to engage this layer in what many see as technical, low-key implementation issues. Nevertheless, if an organisation is serious about using vast amounts of public resources on IT-intensive projects, ownership and responsibility must be established at top management level.

Similarly, clear lines of responsibility and accountability are needed for good project management. It must be clear at the outset *who* will be held accountable for delivery, *how* performance will be measured and sanctioned and *when* assessment will take place.

Thus, in the public sector the role of IT must be reflected in the way organisations are managed. An isolated IT office is sufficient for internal technical applications but not for critical business applications that change the face of the agency and that affect critical legal and business issues.

> One of the most important reasons for resolving the Y2K problem in the United States was the attention from top-level management. Because the Federal Government designated it as the foremost management objective in 1999, management policies, practices and processes were all refocused and managers were held accountable for coping with Y2K. Dealing with the risk of failure became the mission, even though it was a technological problem.

Manage knowledge and human resources

A recurrent problem is the lack of IT skills in the public sector. In some countries this makes in-house development impossible and establishes an imbalance in relations between purchasers and providers.

In order to address these problems, many countries have undertaken knowledge management initiatives, including training of staff, arranging seminars and collecting IT-related information in databases.

The United Kingdom, for example, has set up a database on all high-profile public sector IT-enabled projects, including project descriptions as well as a list of people running these initiatives. The database will allow existing resources to be used in future projects. The Danish Government has set up a Government IT Council, in which top managers across the government discuss business issues in relation to the use of IT.

A more fundamental reason for the lack of IT skills, however, is the difficulty of recruiting well-qualified talent in this area. Lower wages, loss of prestige and mundane duties associated with the public service have led many young graduates as well as senior officials to seek a career in the private sector instead. Against the background of a very tight IT labour market and an ever-increasing demand for high-qualified staff, the competitiveness of the public employer has to be visibly strengthened. Ways to do this vary according to the very different traditions in OECD Member countries, but can include higher wages, differentiated pay systems, better knowledge management and better human resources management.

Manage external providers

Most governments choose to procure large IT systems from private sector providers. The reasons are many and differ among countries and organisations, but include:

- competition between providers brings down the price of building systems;
- private sector providers are more innovative and have more qualified staff;
- the public sector should not produce what can be purchased from the private sector;
- the public sector should concentrate on its core business (which does not include building large IT systems).

Notwithstanding the many good arguments for letting the private sector provide complex IT systems, outsourcing does give rise to a number of issues that must be addressed. Most significant is the lack of IT skills in the public sector. It takes talent and knowledge to procure an IT system and to manage the relationship with the provider. Often, public sector organisations do not possess these skills and this creates an asymmetric relationship from start to finish. Skills either have to be built up internally or brought in from third-party providers.

Furthermore, each party is often sceptical about the capability and/or honesty of the other, and the cultures of the two sectors are often very different.

A first solution to the problems is for the public sector to acquire the right skills, but others include refining contracts, establishing incentives for the provider to deliver on project specifications, and clarifying systems and business change requirements up front so as to adapt expectations.

Currently, many countries focus exclusively on penalties for non-performance in contracts with the private sector. Some practitioners suggest supplementing this approach with positive incentives in the form of economic rewards for delivery on functionality, timeliness and budget.

Involve end-users

The potential impact of IT initiatives on people and their jobs must be recognised. A comprehensive strategy for managing change should be part of project planning. This will include targeted communications, effective and appropriately timed education and training, and user support plans to prepare users and other stakeholders for change.

End-users should thus be involved as early as possible in project management and communication. Close consultation with client groups and representatives helps build ownership and commitment. Extensive user participation in systems development and testing is essential for a viable end product.

The implementation of an Integrated Resource Management System (IRMS) in Canada underlines the importance of end-user involvement. IRMS integrates human resources, financial and material management services for the Canadian House of Commons. Active participation of clients and support staff in all stages from planning the overall strategy to implementation of sub-projects has been integral to the project. More than 200 users participated in extensive consultations, and many performed a variety of roles in individual IRMS projects.

Getting IT right

To get IT right, governments should:

- establish appropriate governance structures;
- think small;
- use known technologies;
- identify and manage risk;
- ensure compliance with best practices for project management;
- hold business managers accountable;
- recruit and retain talent;
- prudently manage knowledge;
- establish environments of trust with private vendors; and
- involve end-users.

The general lesson is not that governments should not take any risks; rather, governments must identify risk, determine which risks they are willing to take, and manage the relevant risk within appropriate governance structures.

About this policy brief...

The themes in this policy brief are based on experiences from participants as well as country reports presented at a meeting on 26-27 October 2000. Representatives from 17 countries met at OECD headquarters in Paris to share experiences on managing large public IT projects. The meeting helped define the problems and find possible solutions.

Concepts, country reports, presentations, links and country expert contacts can be found at **http://www.oecd.org/puma/Risk.**

This policy brief was prepared by Jens Kromann Kristensen and Bernd Bühler.

For more information, please contact Jens Kromann Kristensen
Email: jens.kristensen@oecd.org
Fax: +33-1-45.24.17.06
OECD Public Management website: **http://www.oecd.org/puma/**