IT Management

Projects, programs and business change

David McKean

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IT Management: Projects, programs and business change

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About the author and IT Leaders

David McKean is a former CIO, having worked for several multi-national companies around the world, including AT&T ventures in Asia, UPC Nederland in Holland and Cable &Wireless in the UK. He is now the managing director of IT Leaders Ltd, a leading provider of IT management training. He has worked alongside some of the top IT leaders in the business and shared experiences with countless IT managers and CIO's from around the world.

IT Leaders runs public and in-house courses, as well as providing distance learning and blended programmes. Public courses are run regularly in the UK and internationally, and are accredited by the Institute of Leadership and Management. Delegates include IT managers from all companies world-wide of every size and industry. Our clients include Accenture, Allen & Overy, Alstom, Amey, Barclays, Boeing, BT, Capita, Debenhams, DHL, HP, HSBC, John Laing, Philips, Rothschild, Royal Bank of Canada and Siemens.

The IT Leaders programme looks at 8 key IT leadership skills, including organizational politics for IT managers, leading IT teams, business and IT strategy, technology innovation, crisis leadership, business change leadership, senior level influencing and corporate leadership. The IT business management programme topics include IT to business alignment, business relationship management, communications skills for IT managers, operational excellence and managing IT teams. The IT commercial management programme is run jointly with Mayer Brown, a leading provider of legal services in IT sourcing market. Topics include IT sourcing frameworks, creating a sourcing strategy, key contractual considerations for IT managers, service level agreements, negotiation strategy, negotiation skills, vendor assessment and finance for IT managers. The blended and distance learning programmes are available world-wide and are based on the 10 management skills model developed by IT Leaders. Courses are live and interactive, using on-line seminars, e-learning and assignments backed by a comprehensive course guide and mentoring from the course leader.

IT Leaders also runs a vibrant network of IT Managers, available to former delegates and all other IT managers for a small annual subscription. The network group is vendor independent and meets three times a year. There is also a LinkedIn IT Leaders network which is open to IT managers from all disciplines. The best way to join is to connect to the author David McKean and request an invitation to the network.

I would like to express my particular thanks to the expertise of key contributors - Iain Begg for guidelines for successful project delivery (www.imb-consulting.co.uk), Keith Baxter of DeRisk on risk management (kbaxter@de-risk.com) and VersionOne for their summary of agile methods (www.versionone.com). I would also like to thank Mark, Wes, John, Peter and Stephen for their case stories.

This book is based on the experiences of our delegates and additional interviews with CIO's of several leading organizations. If you have any comments or IT management guidance that you would like to be considered for future editions, please feel free to email me at david.mckean@itleaders.co.uk

You can also purchase David McKean's printed book IT Management: Managing People 1 on Amazon.

1 An introduction to IT projects, programmes & change

This book is the third of four in our IT management series. It covers the management of IT projects, programmes and business change leadership. Other books in the series cover IT management skills for managing people (book 1), IT strategy & innovation (book 2) and IT business, operational and commercial excellence (book 4). The outline of the books in the series is shown in table 1 below.

Book 1 - Managing people Managing yourself Managing IT teams Business relationship management Working with senior execs	Book 2 - IT strategy and technology innovation Business strategy IT strategy Technology innovation Communicating and governance of IT strategy
Book 3 - Managing IT projects & leading change Project & programme management Project portfolio management Guidelines for project & programme excellence Risk management The role of IT managers in leading business change	Book 4 - Business management & operational performance IT to business alignment A model for IT governance Models for operational excellence Crisis management & leadership Technology sourcing & negotiation Finance for IT managers

Table 1

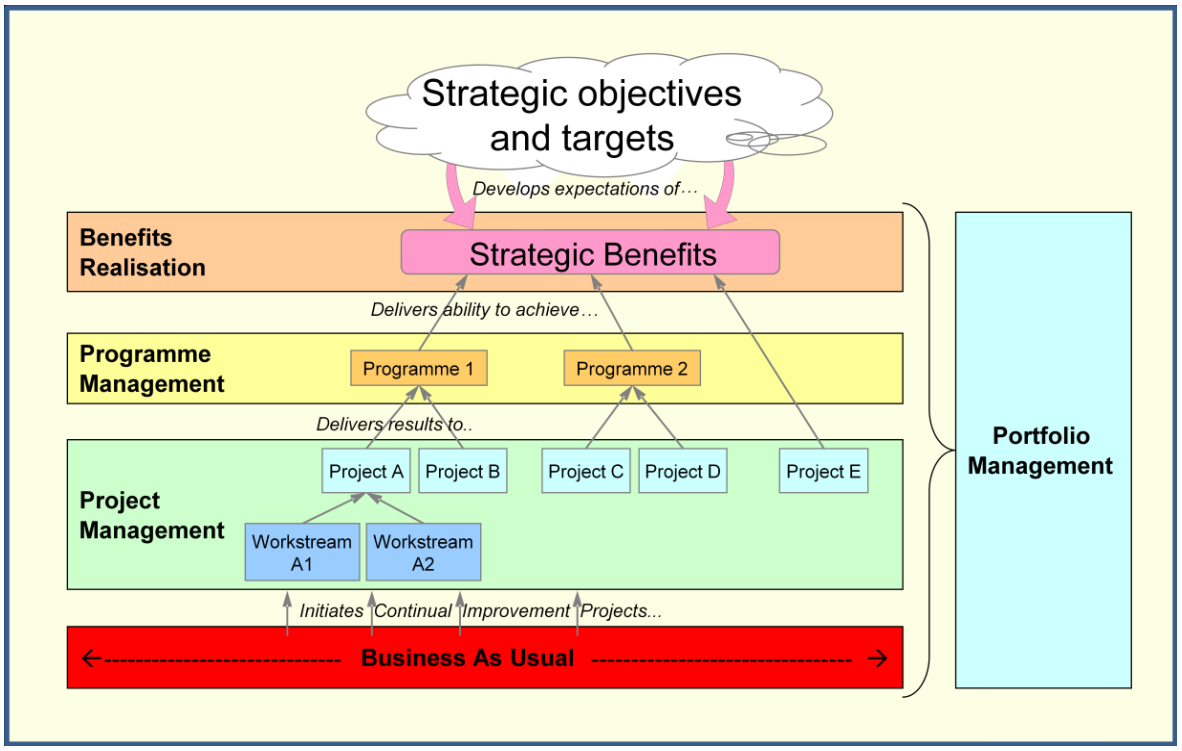
In putting together this series of books, I asked IT managers what they want to know to do their job better? This book presents guidelines and best practice from our own experience, feedback from course delegates and clients, guidelines from our on-line IT managers network and interviews with CIO's and other senior technology leaders.

To be clear from the outset, let us define what is meant by projects, programmes, portfolio management and change leadership and which areas we are planning to cover:

Project management - A project tends to be linear and temporary, addressing the implementation of one new component and therefore. Because this book is aimed at more senior managers, it offers guidelines for those managers who might be looking after a team of project managers. We also look at project portfolio management, the art of managing progress on a series of projects run by several project managers

Programme management - In contrast, programme management tends to be the implementation of a larger change, usually requiring the co-ordination of several related sub-projects to deliver a final result. Senior managers may well be running one programme and overseeing the delivery of smaller sub-projects into an integrated whole. We look at some of the important techniques for managing these larger scale programmes.

The following diagram shows the relation between projects, programmes, portfolio management and business as usual (BAU).



Business change leadership - This is the art of ensuring that a large project or programme is fully accepted and adopted by the organization. It is concerned with the people side of implementing a (usually major) business programme. It recognizes that such business programmes may substantially change the way that individual employees do their work and that this can cause significant anxiety and resistance.

This book is intended to act as a guide for managers who are involved in any or all of the above activities. Since most IT managers have experience in running projects, this books presents insights experience and guidelines to make your projects, programmes and change initiatives more successful. Nonetheless, if this is a new area for you, chapter 7 gives some background on two of the best known project frameworks.

2 Project success guidelines 1 – Get off to a good start

Our first set of guidelines focus on the selection of projects themselves and setting a strong foundation for successful project delivery.

2.1 Choose good projects (be careful what you ask for)

Most business cases that go before the project review committee seem to be really great ideas at the time, only to lose their shine after only a few weeks. And yet, most of the reasons that projects go off the rails are entirely predictable at the beginning of the project.

All the more reason to make sure that the project approval decisions are correct. If you are fortunate to be part of the project review process, you should be asking some very tough questions at the outset - and not in a few weeks time when things aren't going so well. In summary, you should be asking questions in four key areas (see section 3.8 on project portfolio management for more detail), in particular:

1. Strategic priorities - if you think that your organization is going to review or change its strategic priorities and that this in turn will materially affect the need for this project, the best advice is to put it on hold
2. The business case - experience tells us that this is the area where most projects are wrongly assessed. Make sure you are really clear on the benefits, remembering that some benefits (e.g. direct cost savings) are more easily attainable and more valuable than others (e.g. revenue projections)
3. The ease of project delivery - the resources for the project should be properly sized, taking into account the experience of the project team and allowing for a project contingency (either an allowance in delaying the delivery date, or budget over-run). Additional care should be taken at project approval time, if adding such a contingency severely reduces the value of the project. This might be the case for a product launch that must be done in time for a critical date such as a major bank holiday. In addition, the project must meet the needs of the customers, and be supported by the business employees, users and stakeholders alike
4. Endurability - ask questions around how long the project will deliver value. In particular, ask if there are new technologies on the horizon that could deliver more value for a fraction of the cost

2.2 Choose the right time to start

IT's role in a business project or programme is to deliver functionality for business users. And hence the business users must be ready for it. Whilst IT managers should be on the lookout for warning signs - key sponsors not turning up to project meetings or users not attending training sessions, for example. Speak to key users and sponsors to understand their attitude to the change. They should be seeing the change as highly positive, an opportunity rather than a burden or a threat. If there are any concerns in this regard, raise it at the Project Board and consider postponing the project until the time is right.

Dieter's story
Background

I was working for a telecommunications operator in Germany. It had been known to some time that this operating unit was having problems. It frequently appeared on the national news amid stories of poor network quality and very low customer satisfaction. A new management team was brought in to turn things round.

What happened

The management team was led by a very charismatic figure, an ex-special services officer. Every Wednesday afternoon, the management team of eight senior managers met to discuss progress. The meetings were tough, but the chief executive led things forward through a mix of determination and a raw sense of humour.

One afternoon, however, the mood was very different. It transpired that a gunman had gone into one of our sales outlets and put his gun to the head of one of the employees. At first we assumed that this was a crazed drug addict. A sales outlet seemed an odd place to choose, though, as we didn't have much cash on the premises. It turned out that this person was in fact one of our customers. He had become so incensed with the level of service we provided that he had been trying for six months to end his contract.

The company was so incompetent that it was unable to carry out this simple task, continuing to send bills and threatening letters for a service that the customer hadn't asked for and didn't want. So frustrated and angry had he become, that the only way he could think of to get the undivided attention of our organisation was to hold us up at gunpoint.

Lessons learnt

I remember being very shocked at the time, but it did give us a very real sense of what we were doing to our customers. And in turn, it did galvanize us to achieve an extraordinary turn around in the following 18 months. Sometimes it takes an outside event to really make you see things as they really are.

2.3 Choose a good team

Few project managers themselves get to choose the people who are going to work with them. Fortunately, it can be solved by good IT management. If you are in charge of a number of project managers, an important part of your job is to make sure that the team on each and every project has a balance of skills and experience.

Book One in this IT Management series outlines the 9 key roles that a successful team should have, following the research of by Dr Meredith Belbin.[1] Belbin assessments can look at the overall structure of project teams, identifying their strengths and weaknesses.

Be on the look-out for "part-timers," those people that have other responsibilities besides the project itself. For multi-functional projects, such as a company-wide ERP or business intelligence system, the project will need representation from a number of different departments. It is vital then, that the key project members are committed to the project - and that probably means working full time on it. Part timers can be disruptive, turning up as spectators to meetings and too easily able to feign ignorance about issues they should have been responsible for. On the other hand, not unreasonably, "full timers" might feel vulnerable at the end of a project, particularly if it is a long one. Organizations need to make sure that successful project members are not rewarded by losing their jobs.

1 More information on the Belbin roles and project team assessments can be found on their website, www.belbin.com

Mark's story
Background
At a 6000 staff global enterprise based in London, a strategic business decision was made to relocate 50% of IT and business services roles to a new office in Ireland. The ultimate goal was to reduce the costs of the support services. Many of the IT roles to be relocated were highly experienced operational staff who were typically working in a highly customised environment. Key to the successful transition of support services was a knowledge transfer to new staff prior to redundancies taking place. The business cost savings were based on a handover of just 3 months.

What happened?
Once the business decision was public, it was determined, that the depth of knowledge for transfer would require a significant number of staff needed to be dedicated to this knowledge transfer. This meant that all current teams were down on headcount and hence services were impacted.

Non-essential work was moved down the priority list (to free up staff for training and knowledge transfer) – to do this, governance and resource management was introduced through the transition period to minimise the impact to services. Most new work requests were pushed back, creating a backlog of existing maintenance, all of which would still require resourcing at a later date.

It turned out that 3 months was not sufficient. A number of redundancies had to be deferred to extend the transition period. This was the result of the incumbent knowledge not simply being of a technical nature, but also based on many years of experience of the systems.

Lessons

- Always fully understand upfront the resource requirements to implement such business change.
- Understand the impact on services and costs that such requirements will have.
- Don't underestimate the importance of staff experience. It is not simply a case of recruitment and training.
- Involve trusted IT staff with the deep knowledge to contribute to these calculations.
- Consider the longer term impact of additional pressures on staff, and the implications of low morale.
- Ensure the resulting risks to services are signed off by the business.
- Communications to the end users are essential, so that their expectations are managed.

2.4 Be clear on what is being delivered

Projects need to be performed and delivered under certain constraints. Often, when a project is first conceived, it is required "betterfastercheaper!" Of course, not every project can be delivered immediately for no cost and meet all the quality criteria. These factors are mutually exclusive. The general view is that you can have two of the three, i.e.:

1. Quickly and to a good standard, but it will be expensive
2. Quickly and cheap, but it will not be very good quality
3. High quality and cheap, but it will take a long time

This can be shown in the triangle below. A stakeholder will need to choose where on the triangle the project should fit.

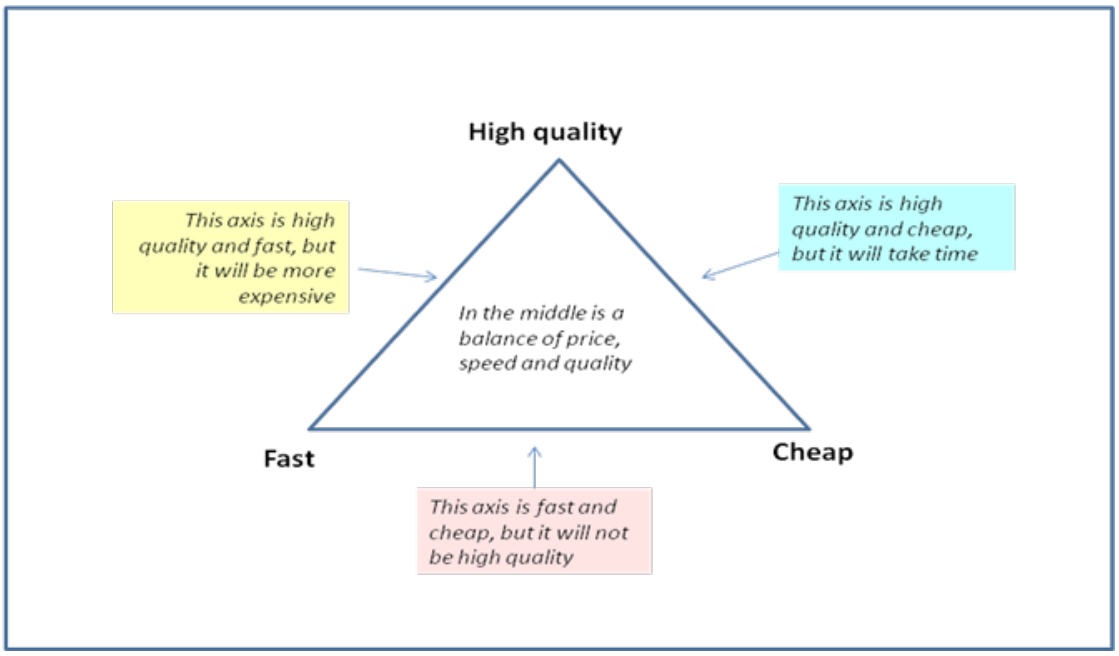


Figure 1

The time constraint refers to the amount of time available to complete a project. The cost constraint refers to the budgeted amount available for the project. The scope constraint refers to what must be done to produce the project's end result. These three constraints are often competing constraints: increased scope typically means increased time and increased cost, a tight time constraint could mean increased costs and reduced scope, and a tight budget could mean increased time and reduced scope.

The discipline of project management is about providing the tools and techniques that enable the project team (not just the project manager) to organize their work to meet these constraints.

2.5 Create a high level architecture

Once the business case is approved, the information systems department needs to get down to its work. Before the project gets too far down the track, there should be a proper technical design. IT project members need to get together and agree what is required and in particular which systems and process changes are needed. From the requirements, the team should be able to put together a high level architecture that describes what the future technical configuration should look like. The aim of this is three-fold.

- First of all, staying at the high level provides a useful mechanism for the architects to identify the best technical solution. Assuming that everyone stays at the high level (and this is a big assumption), it allows the group to think of alternative high level solutions. The benefit here, is that solutioning at the high level, before moving to the detail, means that the detail only needs to be done once

- Secondly, drawing up a high level architecture provides the project team with a view as to how much work is required
- Finally, it acts as a description of the project "vision." Although vision is normally associated with the business improvement that a project will deliver, a high level technical picture can also help the project team to visualize the end point.

Michel's story

A utilities company was looking to migrate its customer order platform to incorporate additional new services. The technical architects had a very difficult job to do and the block diagrams were very complex. For each block at the high level, there was a detailed technical specification. Before all the technical specs were finished, the team enhanced the overview block diagram, making it understandable by the rest of the team. This meant that all architects had to agree on this diagram.

This overview schematic shaped the architecture from a strategic point right at the outset. In turn, this meant that the detail only had to be done once. The diagram was 'coloured in' as one of the architects put it, and was suitable to be communicated to the business stakeholders and users. This turned out to be more important than was first imagined. First of all, it was important to the project team that they could understand what the technologists were trying to produce. Secondly, it helped them to understand that this was not a simple task and required their full attention.

3 Project success guidelines 2 - Managing project progress

This book is concerned with managing projects at the higher level, so we focus on techniques for programme managers and project portfolio managers.

3.1 Develop strong project management skills

If you are running a project team, the importance of having standards and methods around managing the different projects will be no surprise to you. It only takes a few days of trying to consolidate reports in different formats to realize the value of good, consistent reports that can be aggregated to give an overall view. This applies equally whether you are a programme manager bringing together the sub-projects together into an integrated picture, or a project portfolio manager required to manage diverse projects.

Chapter 7 gives some guidelines of two leading project methodologies - PRINCE 2 and PMI's project processes. The thoughts in this chapter assume you have a good project methodology in place and are constantly striving to get the most out of it.

Firstly, project managers must be trained in the project method used by your organization. When we poll senior managers, the vast majority are using some project methodology in their organizations. Interestingly, almost all of these organizations have adapted a standard framework to suit. If you have modified PRINCE2 for example, and you recruit a qualified PRINCE2 project manager, you may still need to give them a grounding in your particular methods, the report formats, frequency, how you manage risks and so on.

Secondly, recognize that fully qualified project managers are no guarantee of successful project delivery. Project management is analogous to driving a car. Just because you have a driving license, does not make you a good driver. It takes experience as well. Below, figure 2 shows our model of the key management skills for managing projects. These skills are represented in different forms in the different project methodologies and many of the key disciplines of project management require advanced people management and analytical skills. As the leader of a project team, you will have a permanent responsibility for identifying problems and developing the skills of your team.

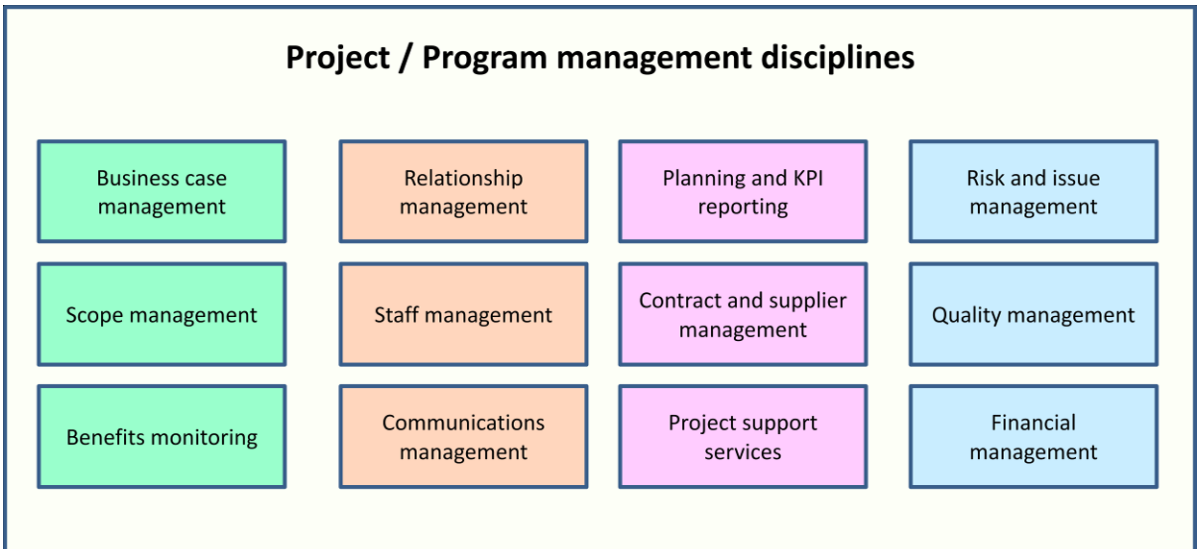


Figure 2

There is so much for a project manager to learn about project management techniques, that it is difficult to know where to start. The following table has been put together by senior managers who have attended our leadership courses as a guide for what project managers should focus on.

Guidelines for your project managers

Make a good plan – A good plan that everyone understands and agrees with, is probably the most important advice. The plan must address the real priorities of what you are trying to achieve and have the necessary resources. There should be enough planning detail for it to be clear what is to be done, but not so much, that the planning needs to be re-cast every week. Don't assume that more tasks is better. Anyone can use the copy function in Microsoft Project!

Stay informed – keep all of your communication routes open and keep listening to the advice of others. In particular, your champions will give you frequent feedback from the field as to how things are going, current issues faced and potential problems in the future. Actively seek the advice of others and adjust your plans accordingly. Keep everyone updated of progress and milestones that have been achieved.

Stay flexible – There is a helpful phrase used as a watchword in the military, "Indecision is the key to flexibility." It means don't rush to make decisions that don't need to. A good example is procurement approvals. Your vendors will want you to buy early and in large quantity. Resist this pressure and buy only what you need when you need it. Staying flexible may mean changing targets or reviewing project deadlines.

Keep to time - Don't delay deadlines unless you have to. It sends out the wrong message and people will use it as an easy way out of project difficulties. I remember interviewing a promising project manager who said he always delivered his projects on time. In reality, it turned out that he kept all his project plans on his computer and restricted access to them. And, anytime things looked like they might slip, he just moved the end dates out. Simple!

Focus on benefits - keep focused on what you are trying to achieve. Don't get distracted trying to achieve too many things at once. It is like carrying suitcases. It is easy to carry one or two at once. As soon as you try to carry four or five at once, it becomes impossible. Keep checking that the results are the right ones. When results have been achieved, make sure that they are recognized with senior management and that the team is properly congratulated and rewarded.

Look after your team – all the time, and be on the look-out for how everyone is performing. Keep them all motivated, busy and working together. Set up regular opportunities to share information, and keep celebrating success. Where possible, be on the look-out for good people who may want to join the project. Good teams attract good people and good people make good teams.

Don't do everything yourself – To use a musical analogy, it is not possible for one person to play a symphony, however talented they are. Substantial projects need the combined efforts of many players. In any business project, many team members with different skills are needed to create the finished product. Your role, is that of the conductor, recognizing and empathizing with what everyone needs to do. Doing the work of your team members (even if you think you are good at it) is highly counter-productive.

Handle conflicts early – As the metaphorical conductor, your job is to ensure that everything works in harmony. As the project progresses and the pressure increases, these problems are increasingly likely to appear. Be on a constant look-out for problems and catch them as early as possible. If there are personal disputes, speak to both parties individually before you bring them together. Telling people to 'pull their socks up' or 'just stop it', is an ineffective management approach in today's business world. It is important to identify whether a dispute has arisen out of personal differences or project differences. Seek to understand the basis of the real problem and take steps to resolve the root cause.

Table 2

3.2 Make them sweat the small stuff

Project managers are paid to sweat the small stuff. Their project plan needs to contain all the necessary tasks so there are no surprises along the way. Project managers should know where the critical path is and what the key dependencies are.

The most common way to present a list of tasks is the Gantt chart (as opposed to a network diagram or what used to be known as a PERT chart). The Gantt chart has the advantage of listing all the tasks. The duration of the task can be easily seen by the length of the task bar it represents on the Gantt chart.

Gantt charts are not so good at showing dependencies as often the dependency lines merge and overlap. In this case, it helps to show the network format too. The disadvantage of the network format is that it is time consuming to create. It is certainly the recommended format, though, for high level project plans.

Why projects fail - Don't lose your RAG†   A key principle of successful project management is KISS (Keep It Simple and Straight-forward). And in a simple world, using RAG (Red, Amber, Green) reporting, Amber or Red status means "I need help."
Sphere of Influence   The project manager's immediate sphere of influence includes those things that they themselves can fix. A project manager reporting their status to the Project Board, should only be using the Amber or Red status for issues that are outside this sphere of influence. Project managers should always have risks and issues to address, but that does not mean the project should be amber or red.
Red vs. Amber   Some managers don't like projects that suddenly appear as red and think they should first go to amber. Don't be fooled. If your project needs urgent help, the sooner you flag it the better.
Crying Wolf   Project managers should not use amber and red to panic the Project Board into allocating more resources. Amber and red status should only be for risks and issues outside the project manager's sphere of influence that may affect a successful project outcome.
Don't get angry!   In his book, How NASA builds teams, Charles Pellerin†† writes that one of the major failings of the Hubble telescope mission was the behaviour of NASA towards its contractors. As one contractor was quoted, "Eventually we were so tired of the beatings, we stopped reporting problems." A sign of a good Project Board is where problems can be easily raised and discussed without them falling into an argument of blame and retribution.

† 'Don't lose your RAG,' Iain Begg, IMB Consulting. Full paper available at www.imb-consulting.co.uk

†† How NASA builds teams, Charles Pellerin

Table 2

When it comes to detail, work breakdown structures may also help. The work breakdown structure (WBS) is a tree structure that shows a subdivision of effort required to achieve an objective—for example a program, project, and contract. The WBS may be hardware-, product-, service-, or process-oriented [2].

A WBS can be developed by starting with the end objective and successively subdividing it into manageable components in terms of size, duration, and responsibility (e.g., systems, subsystems, components, tasks, subtasks, and work packages), which include all steps necessary to achieve the objective.

2 For more information on Work Breakdown Structures, see the Project Management Book of Knowledge (PMBOK), published by the PMI

The work breakdown structure provides a common framework for the natural development of the overall planning and control of a project or program and is the basis for dividing work into definable increments from which the statement of work can be developed and technical, schedule, cost, and labour hour reporting can be established.

3.3 Keep a high level overview for yourself

Rule number one - project reports must be useful and to the point. If you are running a team of project managers, you will be delighted that they are taking care of the detail. Even though the project managers deal with a lot of information, don't let them put the "monkey on your back[3]" by involving you in their detail.

To avoid micromanaging, it is all the more important that they provide the right information to assess progress. Have a standard format for project status reports. If you find yourself reading a lot of irrelevant (i.e. not interesting) information, then revise the format. Keep in mind that one size may not fit all. More complex projects require different reporting structures.

Stephen's story (part 1) - implementing a mobile phone network

Where a detailed project plan is important for smaller projects, a high level view is essential for larger programmes. Some years ago, I worked for a major telecommunications company that was building a mobile network in France, there were about 50 major projects within the overall programme. Each project plan had hundreds of project tasks. It was even more important then, to see how the overall programme was developing without getting sucked into the detail.

We created a high level view using a network diagram format printed on A1 with about 200 key milestones. It was easy to visualize how the programme would pan out - a bit like looking at a time lapse type view of the future. Each milestone probably represented about £2m of capital spend on average. It proved a vital tool to see how progress was being made and how the major projects within the overall programme were interacting.

When it comes to reviewing project reports, take a look at the risk register that is presented. Good project managers should be able to identify and report just the top 5 to 8 risks from the full risk register. Conversely, a project that is not being managed well can often be spotted by the fact that the project manager either reports all the risks, suggesting that they have no understanding of the relative importance of each one, or none at all.

3.4 Tips for managing costs, contracts and suppliers

Project managers need to keep a tight rein on budgets. This usually means keeping a tight rein on suppliers, be they contractors or technology specialists, systems integrators, equipment suppliers or developers.

3 Who's got the monkey, Onckon and Wass, Harvard Business Review reprint 99609

One of the key lessons from our research and delegate feedback is to get the timing of purchasing right. It is better to approve purchases for delivery slightly ahead of when they are needed, and avoid buying in large quantities until absolutely necessary. Set up project costs codes for each project and manage supplier approvals carefully. Strike a good balance between putting the right checks in place to keep costs under control and slowing down project progress.

Give yourself as much time as possible when signing up vendor services to agree contract terms. Include clauses that protect you from vendor problems with implementation and subsequent support. If a vendor senses that time is not on your side, they may use it to their advantage, persuading you to take on services before the contracts are fully signed. Whilst there may be times when this is the only course of action, the recommendation is to start work on contracts at the earliest opportunity, make sure there is a team dedicated to the task, and keep competitive tension in the deal as long as possible.

Wes's story - telephony & contact centre system
Background
The organisation that I work for has 3 sites with call centres at two of them handling almost 1 million calls per annum. Both had different telephone systems that were old and expensive to support. My department was tasked with identifying what benefits might be available from a replacement phone and contact system, building a business case, selecting a supplier and then managing the subsequent implementation.

What happened
The project was kicked off and all project team staff signed up to a project charter that had commitments around project governance and communication. This worked extremely well as all staff knew what was expected of them. We also utilised a web based project management and collaboration system for the first time. This enabled the project team, including external staff, to monitor the progress of all tasks as well as collaborate and share information. This created a more productive, well informed project team. It also enabled me as project manager to have up to date information on all project tasks at all times which needless to say aided decision making and resulted in less 'surprises'.

The project sponsorship was strong, supportive and trusting, expecting that any issues would be reported as and when they occurred. This, together with close project management, enabled the project to be delivered on time, on budget and within a tight timescale.

Lessons learnt
Whilst the project was a success, we learnt a number of lessons both good and bad from this project. It was certainly a positive to set up a project charter as everyone knew what was expected of them and made them more productive project team members. The use of a web based project management system worked extremely well for the staff in my organisation. However, it was not available to the delivery partner prior to placing the order and it was less efficient at managing their tasks. This was also one of the first projects where we introduced a robust benefits realization tracking process. So far, I'm pleased to say, they are currently on track.

High quality suppliers can often help enormously with expertise, insights and guidance on what is working and what isn't. Resist the temptation to confine them to the basement. Like any high quality professional, they will work much better with a good working environment. Provide them with access to office facilities where they need it, but at the same time, don't feel obliged to set aside free office space if they are not working full time on the project.

3.5 Set up good project governance

Project governance does not have to be difficult. In IT organizations, project governance usually works at three levels. First, there is the project review meeting. This is the (typically weekly) review of project progress with the main project members and stakeholders. Depending on the size of the project (and particularly with programmes), there may be sub-meetings that feed their findings into the project review meeting. Secondly, there is the IT project review meeting. This is normally run by the IT director or head of IT projects. This meeting checks that the IT project teams are fulfilling their obligations in the delivery of project. The chairman can then take the findings from this meeting into the higher level project governance board.

The project governance board is where all company projects are reviewed. These meetings review the progress of capital investment decisions. They are therefore extremely important and yet, a surprising number of organizations do not have formal governance at this level. If your organization is one of these, you may wish to consider working with your senior management to set it up. The importance of this (organization-wide) high level project review is discussed in book four in this series in the section on governance.

Project review meetings are important for many reasons - obviously they read out the progress of the project and highlight issues that may need management decisions. But they also showcase the ability of the project teams and in particular, the project manager. Since the meetings are important, the project team leader should spend time with their project managers ahead of time to prepare them and make sure they keep to the point.

Avoiding Project Sponsorship becoming a spectator sport - our top 3 tips†
Projects don't fail in the end, they fail in the beginning. Project governance is the most common reason projects fail. The following three tips will help you to set your project up for success (for more on project sponsorship, go to www.imb-consulting.co.uk)
1. Goal setting
If you were to ask the Project Manager and Project Sponsor, "What are the goals of this project?" nine times out of ten, you will get a different answer. The reason could be a lack of communication, different assumptions or the fact that time has moved on, and the priorities have changed. Together, the project sponsor and project manager should put together a Mission Statement that encapsulates the project's goals and success criteria. Review this periodically as the project progresses.
2. Give airtime to the project manager
The responsibility of the project sponsor includes articulating the high level scope (i.e. goals and success factors), approving the proposed solution, securing financial and human resources, making prioritization decisions and exerting their power to facilitate the resolution of issues and risks. An experienced and hard-nosed project manager would be expected to provide delivery focused plans, identify issues and potential solutions, mitigate risks and prioritize to meet deadlines. Without the two speaking regularly to each other, the Project Sponsor and Project Manager are likely to make assumptions which may constitute significant risk to the successful delivery of the project.
3. Getting the governance right
A project will consist of (in descending order of importance) - the business sponsor, the project steering group or project board, stakeholders, affected parties and interested parties. It is important to identify which category project members fall into to get the best results for your project. Some stakeholders are incentivised to see a project succeed and will move heaven and earth to make it so. But not all stakeholders can commit to attend steering committee meetings, so a small (highly motivated) subset should be elected as the decision makers to form the Project Board.

† 'Avoiding Project Sponsorship becoming a spectator sport' Iain Begg, IMB Consulting. Full paper available at www.imb-consulting.co.uk

Table 4

Project review meetings should be less about project progress and more about making key decisions. If something has gone wrong, the project team leader should work with the project manager prior to the meeting to discuss the strategy. Similarly, if a particularly difficult stakeholder is expected at the meeting, the project manager should meet them ahead of time (with their team leader if necessary), so that any disagreement doesn't hold the meeting hostage. Project managers should choose their attendees carefully so meetings don't become too big and unmanageable.

3.6 Communicate clearly to all parties

Good communication between management and employees is vital in all successful change programmes. Communication needs to be open, working across different levels of seniority and regardless of position, offering an openness in discussing programme issues. There needs to be a free flow of information, ensuring that team members have access to what they need to know in order to achieve their objectives. There should be regular formal communication as well as the smart use of informal channels.

John's story - the need for buy-in
Background
Every project manager talks about the need for communication and buy-in. Of course this means different things to different people. A client of ours told me a story of a large project that they were working on. It required a massive upgrade of the technology platform to enable the launch of a range of new services.

What happened
It was so urgent that the former technology officer had awarded the project management contract to a company that had recently worked on a successful product launch. But the project was starting to stall. It soon became clear that the project management company was unqualified to deal with such a complex technical launch. The project was estimated to take nine months, and three months into the project, the completion date was still nine months away.

An old saying came to mind when I was being told this story. "We never have enough time to do things properly but often find the time to do things twice." And so it was in this case. Soon the project management contract had been re-awarded to a major international systems integrator and we started again from scratch.

The systems integrator put in their elite programme management team and technology experts. Within a matter of days, it was evident that things were starting to move forward, even though the project was effectively still three months behind schedule. It was now March, and the original date for product launch was September. To be honest, most people in the company were expecting completion towards the end of the year.

The new project team worked closely with the key business sponsors and in July, just five months later, the projected launch date was predicted to be somewhere towards the end of September. The new CIO was speaking to the head of customer operations discussing what he thought was good news.

The head of customer operations said that while she was impressed with the progress that the IT department had made on the project, she was getting some resistance from the sales force. That morning, she had received a petition with 100 signatories, asking for the launch date to be delayed.

The CIO was furious. He could not understand why the sales force whose only obligation was to attend a four-hour training course would not be ready when his team had spent 16 hours a day in the last six months trying to get things finished.

Lessons learnt
The lesson learnt was basically that even though the programme managers, the IT department and the key business sponsors were all fully aware of the stellar progress of the project, no one had bothered to tell the sales people that things were back on track. Their minds were still expecting a launch date towards the end of the year.

As the case study above describes, communication is not just talking to those people who will be turning up anyhow to the status meetings. It is about telling everyone who will be affected and making sure they are prepared well in advance for the change. Stakeholders exist throughout the organization. Apart from the project team itself, they include:

1. Key business specialists
2. Senior management and sponsors
3. All the managers whose departments are affected by the change (including IT departments such as IT operations)
4. All users who will have to adopt the new systems

A plan should be in place for how the project will communicate to each of these stakeholder groups in turn. Remember that the same method of communication will not work for the different groups. If you are providing training programmes, monitor the course quality and put critical tests in place to verify that the training has been completed and is fully understood.

3.7 Keep measuring value (SPRINT)

One of the dangers of project management is that delivering the project plan successfully does not always translate into a successful project. Market conditions may change for example between a project starting and a project completing. It is worthwhile to keep monitoring the value your project delivers and to this end it is helpful to have a checklist to help - the one we recommend is called SPRINT which stands for Situation, Problem (or opportunity), Risks, Impact, Needs and Timing . The SPRINT tool suggests that you make a simple one-line statement on each of the 6 items and regularly review them.

1. Situation - this is the business driver that caused your project to be set up in the first place. The Situation is similar to the business context and describes the market opportunity in the case of a business project.
2. Problem (or opportunity) - What is the problem that the business is facing, or what opportunities is it looking to exploit? Create a statement that summarizes the specific problem that the project is seeking to address.
3. Risks - What are the risks of not doing the project and what are the downsides of doing the project and what are the significant things that may go wrong. This is not intended as a detailed risk assessment at this time?
4. Impact - What is the benefit that is expected from the project? It is important to keep reviewing this.
5. Need - What are the key features that are needed by the project to ensure that the value is delivered and are they being delivered?

6. Timing - How quickly does the project need to be completed based on assessments of the market competition? It is clear therefore that if competitive offerings are launched that impact on the value of the project, the project may need to be delivered faster. Similarly, if the market demand fades, it might be worth putting a project on hold

We have come across many companies with ambitious projects and change programmes. Some of them are successful and others less so. One of the biggest problems with the less successful organizations is that they confuse unrealistic targets with ambition. All companies strive to stay ahead of their competition. But any change programme has to be realistic and in our opinion one of the best ways to achieve this is to deliver value in stages.

In our project management courses, we talk about the importance of stepping stones. These are almost like points of safety along the route of the project plan. It saves the project manager having to deliver everything at once, analogous to making one enormous leap from one river bank to the other. The stepping stone approach means that you break the project down into sequential phases. The project can then be appraised at various points along the path and change course if required.

One of the options might be to change the project deliverables and one might be to delay the project. The most common reasons for project delay is a scarcity of resources particularly on the end user side. But there may be other reasons such as changing economic conditions or re-prioritisation of projects.

Stephen's story (2) - Keep delivering value

Background
When a French mobile telephone provider won its licence to build a GSM network in France, it embarked on a long project to build the central switches, radio subsystems and transmission. Notwithstanding the fact that the licence bid itself took over six months, building a competitive network requires huge skill and dedication over many months.

There was a danger that the organization would lose energy. Huge amounts of work had been done, but it sometimes seemed difficult to keep the end goal in sight. It was for this reason that when the central infrastructure was in place including the main switches and primary radio network, the company chose as its next project to get the offices connected and working.

This meant that employees of the fledgling mobile operator could see for the first time what they were trying to create. They were able to make phone calls using new handsets on their own network.

Lessons learnt
It would still be several months before the secondary radio network was in place and the company was ready to launch. But this first victory was a very valuable step in the company's history. The management team was reminded of the importance of delivering small successes along the path.

3.8 The art of managing project portfolios

Any manager in charge of other project managers needs to be able to review all of the projects in their responsibility. This process of managing and reviewing a collection of projects is called project portfolio management. Indeed, in large global organisations there are generally multiple Portfolios e.g. Functional Portfolios and Regional Portfolios which will often compete for resources and for priority.

If you are on a project review team, you may have encountered a number of frustrations, which would be very typical of this type of meeting. Project review meetings can often be drawn out, with project managers talking at length about the projects they are close to. To preserve everyone's sanity, it is important to maintain some discipline. Project managers should get into the habit of summarizing their projects and project status in 2 minutes. This prevents them from "winging it" and using the project review meeting as their time to prepare!

Effective governance of a project portfolio also means dealing a firm hand in reviewing priorities. All too often organizations approve projects in one business context and fail to review them when the context changes. There are many things that can change the context.

1. The economic market conditions
2. The business case and the business priorities
3. The cost or timescale of the project
4. The impact of other projects

On the final point, there is sometimes a view that if a project has been approved, it must be done as soon as possible and at all costs. This is a false assumption. Every project takes up resource - resources that are not then available to other projects. Just because a project under way has a good business case, does not mean there aren't better ones. Effective project portfolio managers have an instinct and an understanding of which projects are standing in the way of more valuable ones.

IT managers should not object when the business wishes to change priorities. On the contrary, this should be welcomed. It is a fact that top calibre managers are more comfortable in changing priorities, putting projects on hold and cancelling them than less experienced ones.

On the other hand, it is not healthy for projects to be constantly started and stopped. What is needed is a rational way to evaluate projects that allows the business to focus IT project teams on their priorities. The best way to do this is with a project portfolio management tool. There are many on the market, but we offer the following four guidelines for successful IT Portfolio Management

1. Light in weight - a key benefit of project portfolio management is that the whole business uses it
2. Describes the value of the project in business not IT terms
3. Provides sufficient detail for the business and IT to identify and mitigate risk jointly
4. Acts as the primary vehicle to measure benefits (and Value for Money

Even without the tool in place, it is still important to measure the relative importance of different projects.

We have developed a 4 point guideline which we call A to E. A stands for "Alignment index" – this is the overall measure that we will use to measure the value of a particular project. The alignment index comes from the make-up of four metrics:

B - Is this project a business priority given the current situation and strategy?
C - Is this project cost effective providing robust benefits for a good price?
D - Is this project deliverable given time and resource constraints?
E - Will the value endure beyond project completion?

The B and the C components are more important that the D and the E. Some companies therefore double the value of B and C to give a more accurate weighted measure. However, much of the value of this technique is around the discussion of projects rather than any precise value.

	Title	B	C	D	E	A Score	Action	Comment
1	Project A	10	8	9	9	90%	Go	*Significantly increases market share*
2	Project B	9	9	4	8	75%	Modify	*Good project but must reduce cost*
3	....	10	7	8	4	73%	No Go	*Has only a short term impact*
4	....	9	9	9	7	85%	Go	*Creates significant brand awareness*
5	....	9	2	9	7	68%	No Go	*Not acceptable to key stakeholder*
6	....	4	3	10	3	50%	No Go	*Non starter*

Table 3

The aggregate "A score" of a project (column 7 in table 3 above) does of course change throughout its life time. This may be caused by:

1. The business priority changing because the business strategy is revised
2. The cost effectiveness (i.e. business case) changing because market forecasts change or the project costs increase
3. The deliverability changing because of problems with resourcing or the supplier
4. The useful life of the project changing (its endurability) as new technologies are announced the supersede the existing one

For this reason, therefore, projects should be continually reviewed to see if they are still well aligned to the business priorities. And if they aren't, it is important to act quickly. Clearly it rarely makes sense to stop a project if it is close to completion. However, as we have observed, it is the more successful managers who are much more willing to stop projects that are not delivering.

IT project portfolio meetings

To the Head of IT Projects, the project portfolio meeting is a vital tool in managing the performance of project delivery in the organization, providing an opportunity for IT project managers to come together and share experiences. If the chairman does not exercise discipline, these meetings can be incredibly tedious. It helps of course to have a sharp project reporting format. The project readout too should be short and sharp, leaving time for the Head of IT Projects to ask some more incisive questions. In table 5, we list some of the questions that may help you assess true project progress and status. The sharp eyed reader will infer that not all project statuses are accurate. And they would be dead right!

Questions to ask at project portfolio review time	
What can I do to help?	A good question - this always puts project managers on their guard the first time they are asked it! (Don't ask it though, if you are not prepared to help).
What are the biggest risks and how have they been derived?	The idea of the question is twofold - first of all, it will tell you if the project manager has considered the risks, and secondly, do they have a view as to which ones they should work on?
How good are the estimates (e.g. of project plans, task lengths, budgets etc.)?	A tricky question, because they are estimates. Usually the project manager will talk about something else and, if you listen carefully, you will find out what they are concerned about.
What have been the specific project achievements in the last week?	This is quite an aggressive question, but one to ask if you think your project manager has either been busy on other things, or is not focused.
Did you do what you said you were going to do?	This is a telling question - it is easy to list achievements, but harder to admit that we didn't quite achieve what we set out to do.
On a scale of one to ten, how happy are you with the project?	This is a bit of a trick question. Good project managers will never give a project ten out of ten as they are always looking for improvements - and they also know that if they say everything is great, then resources may be handed out elsewhere. Ten out of ten suggests a project manager who sees the world through rose tinted glasses and is therefore more likely to get caught out by 'unexpected' problems.

Table 5

4 Project success guidelines 3 - Closing the project

Any project team manager must be there for their team. And the time they are most needed is often as the project is nearing completion. It is all too easy for project managers and project teams to take their eye off the ball, trying to secure a role on another project that is about to kick off. But experience tells us, that there are many things that can go wrong on a project right at the end.

4.1 Get ready early for the "go-live"

As a project nears its close, attention moves towards the operational mode. Most operational managers will tell you that this is often too late. Certainly, experienced project organizations ensure that operational managers are involved in the project from the earliest stages, so that the problems of performance, scalability, systems management, security and so on are properly considered.

Training courses should be completed by all users who will be using the system. User manuals, including quick start guidelines should be created and distributed to all users. The application support teams need to be fully trained on the new system (assuming there are software support implications) and there should be enough personnel to field calls on go-live. It may be worth considering a special "media style" campaign, using the intranet, company newsletter, posters, etc. to inform everyone of the changes being planned and the go live date.

John's story
Background
A utilities company in Africa was looking to implement a major change programme. The company had grown quickly through acquisition and now comprised 5 separate divisions. The head office believed that the future lay in standardized information systems to realise the economies of scale of the acquisitions. The head office CIO department was proposing an integrated solution using best-in-class software applications, integrated with an Enterprise Architecture Integration (EAI) layer. However, unfortunately, the biggest division already had its own custom-developed system which it was unwilling to relinquish.

What happened
Fortunately, two of the divisions had already signed up, and within 4 months, the first of them had gone live and quickly started to realize benefits. The implementation team realized that the project had gained significant momentum and still did not want to give up on the biggest division. The central CIO team was also smart enough to realize that it could not impose a new system on anyone that was unwilling to implement it.

Instead, the CIO spent significant time with the reluctant operating division, in particular with the main business directors, asking them to talk about the problems they were encountering. It soon became apparent that all was not well with their bespoke system. Some elements that had been developed recently were operating well, but the older modules were starting to become slow and cumbersome.

Rather than try and persuade this division to move to the new system in one go, the CIO decided to approach the implementation in a step by step way. The division agreed to replace their oldest module which had the biggest problems, with its equivalent from the new architecture. Gradually, when the operating division came to see the benefits of the new module, they asked for the implementation of the other modules to be accelerated. The project was completed within 24 months, almost the same time it would have taken if they had tried to do everything at once.

Lessons learnt
There were several lessons to take from this. The first came down to trust. The operating division did not believe that a so-called off-the-shelf system could provide the depth of functionality that was needed. It turned out that this wasn't the case. But, by not forcing the issue, the head office allowed the local operation to identify problems themselves and take ownership of resolving them.

The second lesson, was about not giving up. It was important for the head office, to continue the momentum of the overall change project. It was not the CIO's intention to replace everything as quickly as it turned out, but rather, take things a step at a time. The step by step approach did give the operating unit time to adjust to the change, and once the project had started, there was no going back.

4.2 Make the change "irreversible"

Going through a major change programme is tough. The programme itself is the just the end of the beginning. It is vital that any new system is accepted by the users - good training helps, but users also have to be committed in their hearts and minds, and that is down to strong leadership from the business. IT managers need to coach, guide and support this wherever possible.

It also helps to make the change "irreversible." In other words, programme managers need to make sure that there is no reversion back to the old way of doing things. It is also important that organizational designs and performance management systems - recruitment, performance measures and rewards - are aligned to drive new behaviours.

Kate's story

Background
Our company provides professional services to small and medium sized organizations.

What happened
One of the first projects I worked on was the implementation of a document management system. This would, we thought, have massive benefits in filing and sharing documents, saving time and money and paper. A number of the key managers were not so keen. I personally remember spending a lot of time with our finance director to persuade him of the benefits. Eventually, he agreed that it was the right thing to do and would not stand in the way of progress.

In fact, when we went live, there was a lot of enthusiasm for the new system. All of the most active users found the system much better. However, after a while, we noticed the usage statistics were falling off. There was not as much activity on the system as there used to be.

On further investigation, it turned out that the finance director was continuing to use the original paper-based filing system. He was also asking his team to print documents out for him. In turn, his team was starting to go back to the paper-based system too, as the finance director was annotating his notes on the paper copies. When I spoke with him again, he said that he would always want a current file in his office. As an interim step, though, we suggested that he archive the older files into the basement as had been our original plan. These files were already scanned into the system. This turned out to be the tipping point.

Lessons learnt
The problem wasn't so much that the finance director didn't want to use the new system. It was more the case that every time he needed to use it, he had to ask someone to show him how. And he had got tired of doing this - hence his reversion to the paper copies. By archiving the old files to the basement, he was now forced to use the system from time to time. And this was enough for him to get used to it. Once he had got enough confidence in using it, he used it more and more. Within 6 months, all the files had been moved to the basement. Our lesson learnt was basically to make the change irreversible.

5 Risk Management - 5 things to know

5.1 The basic calculation – Problems vs. Risks?

Organizations are forever concerned about the future, and effective managers should be looking ahead to see what opportunities exist and also what potential threats might arise. It is worth mentioning at this point that in the MoR standard from the OGC for the Management of Risk, risks can be either potential opportunities or threats.

Nothing is certain about the future, so how do you decide which risks are worth addressing and which ones aren't? How do you get to a point where the organization is does something about them beyond just fretting?

It is important to have a common way of assessing the relative importance of risks. The important questions that we need to ask are:

1. What could go wrong (in general)?
2. What could go wrong (in particular)?
3. What can we do to reduce the chances of that happening?
4. And since we can't be certain of stopping every unfortunate outcome, what can we do to minimise the impact were it to go wrong?

So traditional risk management looks at four aspects:

1. What are the general areas of vulnerability?
2. What are the specific potential problems?
3. What are the likely causes of these potential problems and what actions can we take to reduce the probability of them occurring?
4. What actions can we take to mitigate the impact if our preventive actions fail?

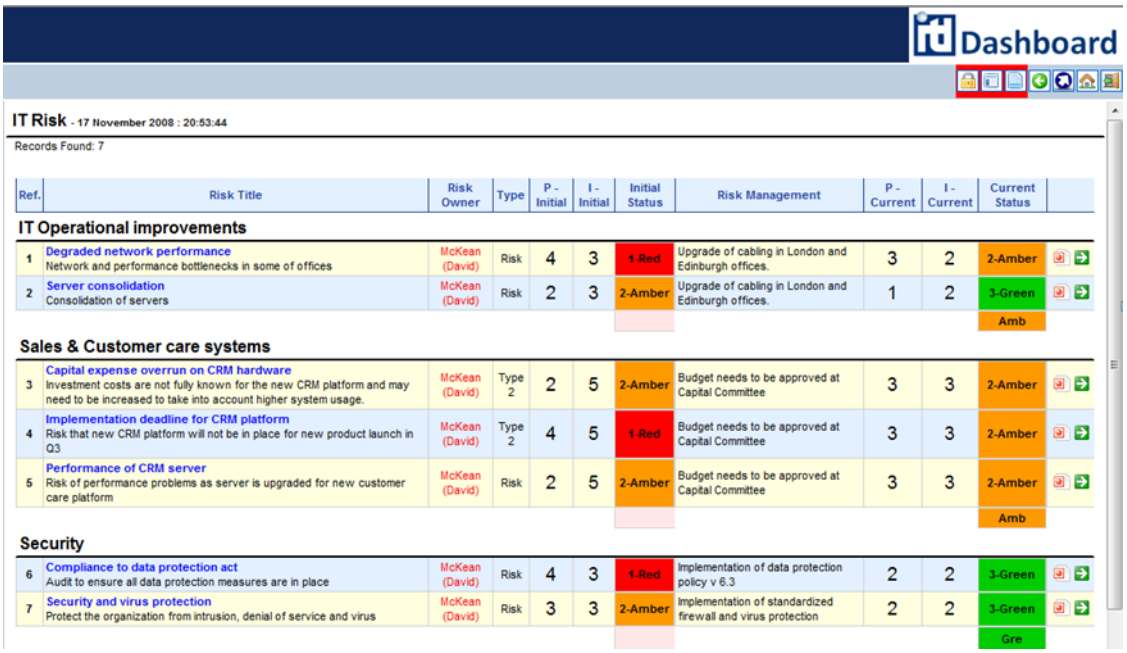
5.2 The Risk Register

An obvious outcome of having a common process for looking at risks, is that a number of risks arise from a number of different potential problems. This list of risks is known as the risk register. Having it in one place allows the management team to assess the most important project risks and to agree collectively what is going to be done about them. The risk register typically has the following columns;

1. The general area of vulnerability (this can be the project as a whole, with each project having its own sub-register
2. The owner of the risk. Often there is an incorrect assumption that the Project or Programme Manager is the Risk Owner for all risks. Risks should be "owned" at a level where there is sufficient authority to manage the risk meaning that some risks can be delegated and some need to be escalated.
3. The probability of this risk happening - this can either be given as high, medium or low or alternatively a score out of 10, where a risk of certain probability is 10
4. The impact on the project if this risk came to pass - again, this can either be given as high, medium or low or alternatively a score out of 10, wherea score of 10 means it has a critical impact
5. Actions to reduce the probability of the risk happening and mitigate the impact of the risk happening (shown in column 8, 'risk management.'

An example of a typical risk register is shown below[4]:

7 Courtesy SofTools Ltd



IT Risk - 17 November 2008 : 20:53:44

Records Found: 7

Ref.	Risk Title	Risk Owner	Type	P - Initial	I - Initial	Initial Status	Risk Management	P - Current	I - Current	Current Status
IT Operational improvements										
1	Degraded network performance Network and performance bottlenecks in some of offices	McKean (David)	Risk	4	3	1-Red	Upgrade of cabling in London and Edinburgh offices.	3	2	2-Amber
2	Server consolidation Consolidation of servers	McKean (David)	Risk	2	3	2-Amber	Upgrade of cabling in London and Edinburgh offices.	1	2	3-Green
										Amb
Sales & Customer care systems										
3	Capital expense overrun on CRM hardware Investment costs are not fully known for the new CRM platform and may need to be increased to take into account higher system usage.	McKean (David)	Type 2	2	5	2-Amber	Budget needs to be approved at Capital Committee	3	3	2-Amber
4	Implementation deadline for CRM platform Risk that new CRM platform will not be in place for new product launch in Q3	McKean (David)	Type 2	4	5	1-Red	Budget needs to be approved at Capital Committee	3	3	2-Amber
5	Performance of CRM server Risk of performance problems as server is upgraded for new customer care platform	McKean (David)	Risk	2	5	2-Amber	Budget needs to be approved at Capital Committee	3	3	2-Amber
										Amb
Security										
6	Compliance to data protection act Audit to ensure all data protection measures are in place	McKean (David)	Risk	4	3	1-Red	Implementation of data protection policy v 6.3	2	2	3-Green
7	Security and virus protection Protect the organization from intrusion, denial of service and virus	McKean (David)	Risk	3	3	2-Amber	Implementation of standardized firewall and virus protection	2	2	3-Green
										Gre

Figure 3

If you are overseeing a number of projects, beware of project managers using the risk register to avoid responsibility. Their risk register is closer to a list of everything that might go wrong on the project including things they are responsible for. The inference is that if they highlight them and the risk turns to reality, they are absolved from responsibility. Clearly this is not the case!

Good project managers recognize that it is impossible to address all risks and to have an absolutely 100% confidence that everything will go according to plan. Their risk registers only contain the most serious risks to the project with focus on say the top five or ten. When these risks are managed, they fall out of the top 10. New, more serious risks then take their place.

This technique works well for small and simple projects, but traditional techniques quickly get out of their depth when the projects get larger and more complex. A more sophisticated method is needed.

5.3 Assumption based risk analysis

It is a fact that many large, complex projects and programmes fail to meet their planned objectives – either failing to deliver what was promised, sliding the timeframes or exceeding the budget – or all three! Most organisations are undertaking one or more aggressive, "must do" programmes at any point in time. These may fundamentally change the way the company conducts its business and failure to meet objectives on time may have a catastrophic impact on business.

Many different risk management processes are used to improve delivery performance. These may range from very informal approaches, where the lack of process means that it ultimately has little impact, to formal documented processes, which deliver varying degrees of benefit. Very often these "traditional" risk management approaches are sound in theory but disappointing in practice. Some of the reasons include:

- A tendency to focus on today's issues rather than tomorrows risks
- The creation of generic risk statements that are too general to be useful
- An over-analysis using unsubstantiated numerical data
- An under-analysis using misleading High/Medium/Low type scales
- Inappropriate prioritisation so you "can't see the wood from the trees"
- Inability to get anyone to actually do anything about the risks!

Assumption Based Communication Dynamics (ABCD)[5] is a highly effective risk management process that captures the collective knowledge and viewpoints from stakeholders on the project. It turns traditional risk management on its head by focusing on what is assumed to be working rather than what might go wrong. From the list of assumptions that a project is relying on, the focus can then be on why these assumptions might not hold true. The confidence level that an assumption is true is, of course, exactly the opposite of a risk. This is a really important point and is best illustrated with an example. Supposing we think the risk of some key equipment not being delivered on time is 20%. Rather than take the glass half empty approach, we could take the glass half full approach. In other words, we could state that we are 80% confident that the equipment will arrive on time. Or to put it a different way, we believe that the assumption that the equipment will be delivered on time is 80% true.

At the most basic level ABCD works because it is an intuitive process that takes a positive view of the project (i.e. what assumptions are you relying on to achieve your objectives) rather than a negative one (i.e. what are you expecting to go wrong - your risks). By dramatically improving the communication of key assumptions, risks are avoided or managed proactively and project objectives are delivered on time.

Other benefits of ABCD include the fact that it:

- Naturally forces people to look to the future (i.e. their assumptions) and therefore ensures true risk management
- Captures specific root-causes of risks (i.e. the assumptions)
- Uses a positive outlook and encourages project members to surface more assumptions (and hence more risks)
- Uses meaningful analysis that provides true insight and accurate prioritisation

5 A fuller description of Assumption based risk management, QBC and Monte Carlo analysis is given in "FastTrack Risk Managment," by Keith Baxter

- Provides clear prioritisation and escalation from project through programmes to enterprise levels
- Ensures follow through on actions via simple but effective roles and governance structures

Assumption based risk management requires some changes in how risks are assessed. We look at:

1. the stability of the assumption (equivalent to Probability in traditional risk management)
2. the sensitivity of the project to the assumption (equivalent to Impact in traditional risk management)

Once we have clear objectives and plans, programme and project managers must ultimately control two fundamental factors if they are to successfully deliver their objectives

1. The assumptions that underpin the business plan must be clearly identified and communicated
2. The assumptions made by the individuals in the implementation of the programme must be made explicit, rated and communicated.

Therefore the capture, analysis and communication of assumptions are critical to the success of the project or programme, and this forms the basis of the ABCD process. At the core of ABCD is the analysis of the assumptions. This process uses structured techniques to analyse project plans and identify the most sensitive assumptions that are potentially unstable, and therefore the source of greatest risk. Assumptions are rated for Sensitivity and Stability on an ABCD scale; where A is always "good" and D is always "bad". This provides a meaningful assessment on each assumption (i.e. there is no "medium!) This also guides the mitigation plans by indicating how best to attack the risk (i.e. stabilise the underlying assumption or de-sensitise the project to the effects of the assumption).

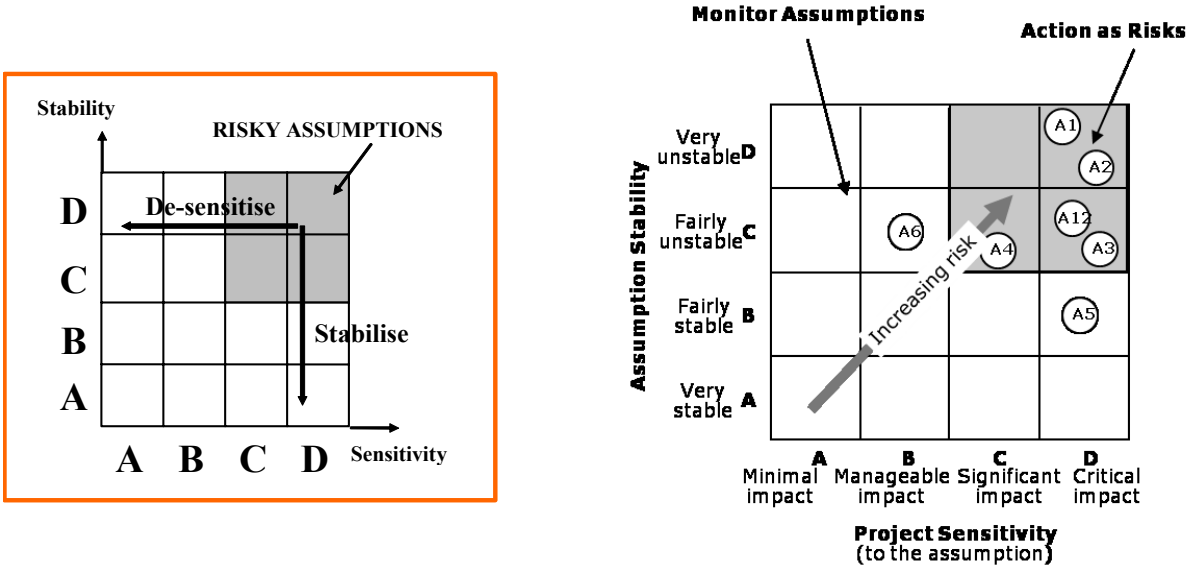


Figure 4

5.4 A smart way of visualizing risk profiles

The traditional approach of looking at the probability and impact of a risk (or the stability and sensitivity of an assumption) misses one additional dimension - that of urgency. Usually organizations look for the biggest risk and put it top of the priority list. Supposing, though, that the biggest risk was expected to take 12 months to mitigate. Focusing on this might mean that a more urgent risk is ignored because it is not at the top of the risk register. This problem is often compounded, because typically when a project starts, little consideration has been given to the correct sequencing of risk management activities and the overall risk plan.

A good way to show these three dimensions is the risk bubble diagram. Here, each risk is represented by an individual circle or bubble on the chart. The height of the risk 'off the ground,' represents the impact of the risk if it were to be realized. High is good. The lower impact risks are shown in green. The higher impact risks are shown in red and are 'nearer to the ground.' The way to look at this chart is to recognize that unmanaged projects will have risks that "cluster" around the origin. Bubble diagrams are particularly useful for showing trends in managing risks. The example below on the left shows a project not under control. Over time, the risk profile should move towards the situation on the right, i.e. a project that is being properly managed.

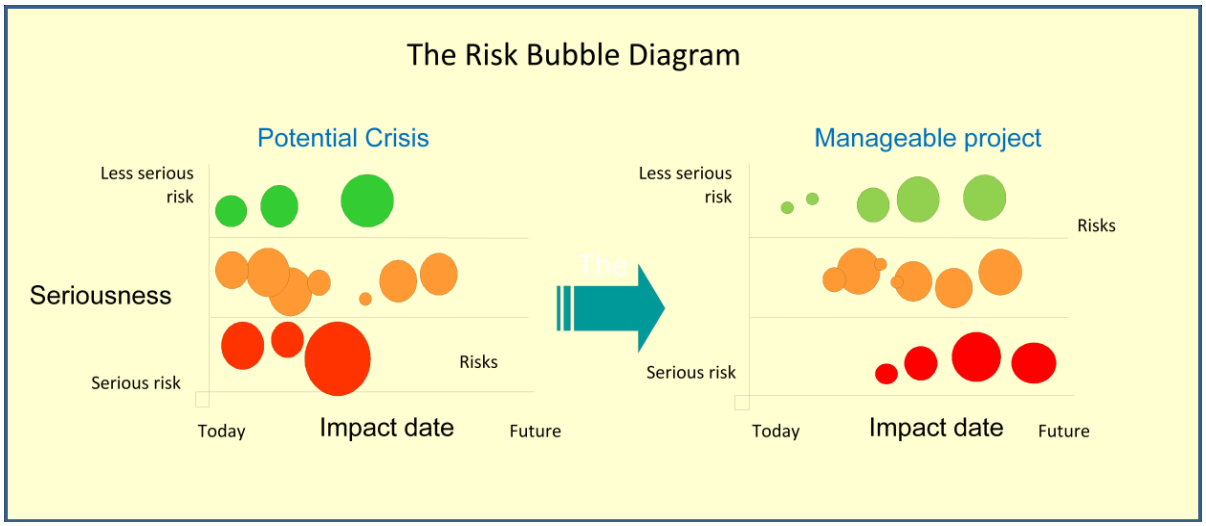


Figure 5

The second aspect of the risk that this diagram shows is how well it is under control (this is represented by the diameter of the bubble). In other words, do we have plans in place to control it? So a risk is controllable if risk plans are in place and there is confidence that they will deliver the intended risk mitigation. A risk is not controllable if there is no plan in place or even if there is, that the plan will not significantly reduce it. The larger the diameter of the risk bubble, the less it is being managed.

And so on to the third aspect, the urgency. The x-axis shows the timeline of the project, where the origin of the graph represents the critical objective of the project being met. The x-axis represents how much time is in hand to manage the risk. So the less urgent the risk, the further away the risk bubble.

So, referring to figure 5 above, the left hand diagram shows a lot of large red risks close to the origin of the chart which means that there is a imminent high probability of severe impact risks with no plan to manage them. The right hand diagram illustrates a more manageable project. Whilst there are some red risks, these are some way off in the future and there is a chance to make them more manageable.

In terms of explaining the chart to senior managers, you want as few risks (i.e. bubbles) as possible, those that you have as high off the ground as possible (i.e. lowest impact), as far away to the right as possible (i.e. not yet urgent) and properly managed (i.e. with a small diameter).

5.5 Quality based costing and Monte Carlo

In practical terms, the most important question for a risk manager is: "What does the overall risk profile look like, and which are the risks I should manage to make the biggest difference?"

The best technique for solving this problem in the world of projects is called Quality Based Costing (QBC) [6]. It quantifies the overall risk profile of a project and then lets you evaluate what impact the mitigation of a particular risk might be on the project. From this, you can then work out which are the most important risks to work on.

It will then tell you:

- What is the fastest the project can complete?
- What is the most likely time it will take?
- What is the lowest cost of the project?
- And what is the most likely?

6 Theory and examples of ABCD and QBC courtesy of De-Risk Ltd, www.de-risk.com ABCD risk management is a trademark of De-Risk Ltd

QBC accurately estimates this for any project. It works by acknowledging the inevitable quality variations in the project (time and cost) estimates and underpins all estimates with their underlying assumptions.

QBC uses the concept of strategic cost "Bricks" in the project. Strategic cost means the cost in terms of lost benefits, time or money spent. The term Brick is simply used to avoid confusion with Work Packages, activities, tasks etc. The size of a Brick can vary considerably depending on the stage of project. The first step is to build the "Brick Wall" and when this is complete, all the Bricks together represent the total strategic cost structure of the project (with no estimates, at this stage).

Brick Owners are allocated for each Brick based on the ability to estimate the specific Brick as accurately as possible. Brick Owners are then interviewed to "break-down" the Brick estimates into its components.

This is done by asking structured questions that break the Brick down into:

A =	Absolute minimum
A+B =	Best guess/realistic estimate
A+B+C =	Contingency added
A+B+C+D =	Disaster scenario

The assumptions that underpin the estimates are also captured using the ABCD Assumption Analysis process. The ratings of the assumptions must be consistent with the estimate breakdown. Discussion of these estimates often results in changes to the estimates and/or assumptions to make them more accurate.

Each Brick then has two probability distributions built around the estimates – one for the "Contingency Scenario" and one for the "Disaster Scenario".

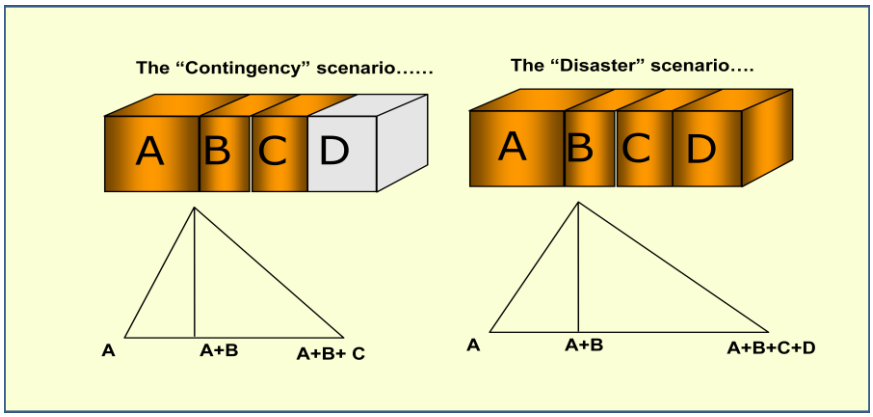


Figure 6

Monte Carlo simulations are then run to statistically add the Brick estimates together. A Monte Carlo simulation is basically where the different possible scenarios are run through the computer using the probabilities set up in the ABCD assessment. [7] The resulting probability distributions can be interpreted to make crucial decisions relating to budgeting, pricing or milestones e.g.

- There is a "zero" probability of the project costing less than the "Base Cost"
- The 50% confidence cost means that there is an 50-50 chance of the project costing less or more than this value
- The 90% confidence cost is normally considered to be the "ideal" cost to budget (if this is considered affordable!)
- To be meaningful, the project must be funded somewhere between the 50% and 90% costs The Add-up cost is simply the value that would have been reached through "traditional" estimating. The Add-up cost could appear anywhere on the graph but normally appears below the 50% point – it is therefore not surprising that traditional estimating is so far out!

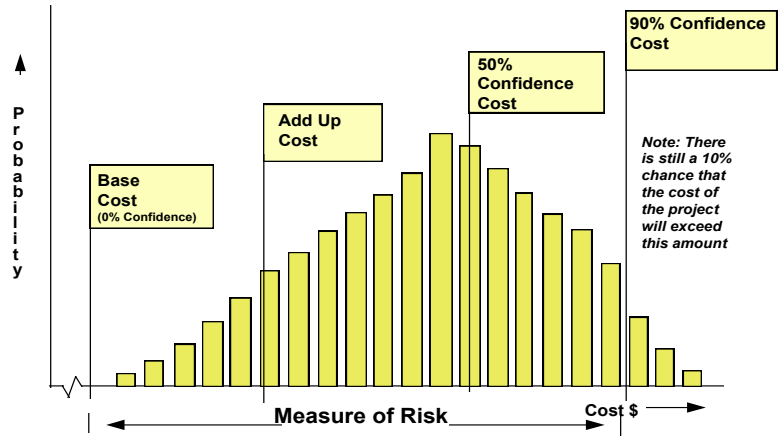


Figure 7

Using QBC for competitive advantage

QBC is sometimes used at the proposal stage of a project to provide the best possible information for competitive pricing and to give confidence that crucial milestones will be met. In non-competitive environments, it provides a scientific way of guaranteeing fair budgets and profit. In competitive situations, it allows suppliers to understand the level of risk that they are taking on and, if they choose, cut their price or timescales. It also allows for innovative pricing scenarios which can produce the most aggressive (fixed) price but with reduced risk to the supplier.

7 The calculations shown are illustrations from AssureTM is a web-based tool from De-Risk, capturing ABCD data and generating reports (e.g. Risk Registers and "Bubble Diagrams")

Taking it one step further, it can help to bridge a discussion between vendors and their customers about risk. Vendors for example have traditionally been very wary of talking about risk. It makes their customers feel that things are expected to go wrong. However, with this kind of Monte Carlo analysis, you can do 'what if' calculations to identify which tasks are the most valuable. Vendors can then state which tasks the client should take responsibility for and can clearly demonstrate the positive effect it will have on the project. It also avoids the vendor taking on risks they can do nothing about and those difficult discussions that often ensue.

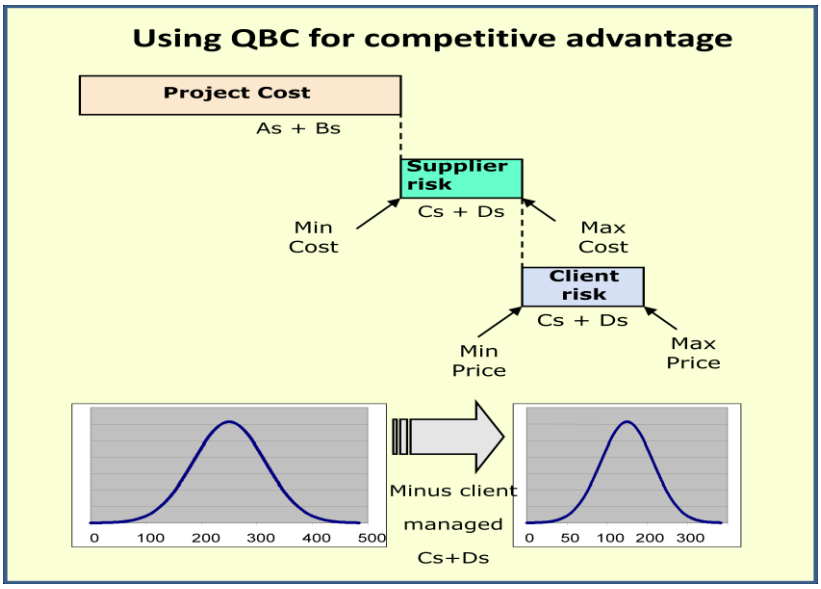


Figure 8

This analysis can also tell which areas of risk management to focus on. What you find in practice is that mitigating some activities to ensure that they are guaranteed to deliver earlier makes absolutely little or no difference in the 'cost' profile of the project. And small changes to others, or a simple project re-sequencing, makes a big difference.

Why vendors are better at fixed price projects

Contrary to popular belief, vendors are generatlly better at managing Fixed Price projects whereas end users typically fail. There are three primary reasons which end users might wish to consider.

1. Risk Management –vendors use risk mgmt to establish the level of Contingency, then they add profit margin on top.
2. Change Control – vendors will keep a keen eye on things that are outside the contractual scope and will apply Change Control to ensure every project is profitable.
3. Resource Availability – vendors will allocate sufficient and dedicated (i.e. 100%) resources to a project and when necessary will add resources to ensure they meet deadlines. Whereas in end-user organisations, resources are often shared across projects and project prioritisation can affect resource allocation.

6 Change leadership

6.1 The special role that IT managers play in business change

Business change projects with IT at their heart have been around for many years. So, assuming that experiences are shared and lessons learnt, why do so many of them go wrong? From all our work with CIO's, two things at least seem clear. Firstly, all change programmes depend on people and emotions can run high. Secondly, there are programme management considerations to take into account, and not all of them will be known at the beginning. It needs extensive programme management experience to take on the changes and still keep the project on track.

Most business change in an organization concerns new products, services and ways of doing business (processes). The IT department can therefore expect to be at the heart of change in any organization – helping to change the systems that support product design, manufacture, pricing, sales and marketing, as well as all other internal processes.

Senior IT managers are often involved in major change initiatives. However, they are rarely the primary business sponsor. This sometimes seems unfair, as they often have immense experience in delivering major programmes. But here is the catch. As soon as a senior IT manager starts taking over a change initiative, it can stop being seen as a business change programme and become an IT project. The reality is that IT managers have an extremely difficult task to perform in business change. There are two primary tasks:

1. To monitor progress in the background and apply their business programme experience to ensure the success of the change project
2. To coach and guide the business to lead their own change

The role of IT executives is in some ways more difficult than that of the change leader. Using experience from previous initiatives, their role is to coach and advise the business change leader of the key areas to focus on to make the business change programme successful.

6.2 Success guidelines for business change

When it comes to lessons learnt, the good news is that there are many. In the table below, you will find our top guidelines put together from several hundred IT managers who have attended our courses.

The table / model below captures these lessons learnt using a model of four change phases, namely:

Phase 1 - Making the case for change
Phase 2 - Starting out
Phase 3 - On the change journey
Phase 4 - Completing the change program

Phase 1 - Making the case for change

- Look for opportunities for change
- Make sure the organization is ready to take on the challenge
- Be clear on what needs to be delivered for the benefits to be realized. Understand which components / products lead to which benefits so that there is a clear 'line of sight.'
- And make sure the business case really stacks up – just because the numbers are large and positive doesn't make them right. You should always get to the heart of the business case and understand what needs to be delivered for the benefits to be realized

Phase 2 Starting out on the change journey

- Link the vision to the benefits
- Prepare some of the detail ahead of time, for example, enterprise and systems architecture
- Work through the plan and let the users complete the detail so they feel empowered
- Help the business communicate the vision, but remember, this is their job

Phase 3 - On the change journey

- Make sure you are ready to endure the difficult times
- Keep an eye on the benefits through the delivery journey
- Keep programme managing
- Keep the stakeholders engaged
- Keep communicating
- Keep delivering quick wins
- Keep celebrating success

Phase 4 - As the programme nears its end

- Don't give up
- Make sure you prepare for operational mode
- Solve operational problems quickly
- Realize the benefits – measure and review them

Table 6

It also makes sense to have a view of the key lessons learnt from the business point of view. There is no better reference that those of John Kotter, Professor of Leadership at Harvard Business School (so he ought to know!) in his two books, Leading Change[8] and the Art of Change[9]. Both books are excellent, but the second one, is particularly good with some excellent case stories, illustrating change leadership. Many of his change leadership lessons are included in our list compiled in the previous table.

Leadership and vision are vital ingredients in successful change projects - both from the programme team and the senior executives in the organization. It needs to be consistent. It is not acceptable for senior management to join the kick-off meeting with promises of commitment and statements about how important the project is, only for them to be never heard of again. Managers need to be constant supporters of change and they need to be accountable for its success. Organizations that have a good track record of executive support for change in the past have been shown to consistently have success in the future.

The key lesson in phase two, "Helping the business communicate the vision," needs a particular mention. A proper shared vision is a vital part of a change project. General high level statements of intent can often appear nebulous and valueless. In the context of business, vision is about describing what the end will look like. It can be described in any way that works. It can be a rousing statement of future achievement, a video, an animation or anything that appeals to the mood of the moment. Employees need to have a clear understanding of the vision – it needs to be consistent with the company's strategy, which in turn needs to be consistent with the day to day activities.

6.3 The emotional side of (business) change (DREC)

Now for something completely different - brain science. You may have seen some of the images of the brain where scientists trace the energy coursing through it. Experiments have been done on patients put in unfamiliar situations. In these situations, these energy traces show that the pre-frontal cortex at the front of the brain lights up. The pre-frontal cortex is equivalent to brain RAM. The pre-frontal cortex is agile, but can only deal with a handful of concepts at one time. When it bumps against its limits, it generates a palpable sense of discomfort, leading to fatigue and sometimes anger. In fact, the pre-frontal cortex is linked to our primitive emotional centre.

Given the choice, our brains prefer to use the lower energy basal ganglia (brain hard drive) – this controls habit-based behaviour. What the science seems to show, is that the brain has a reward mechanism when we gain insights into doing new things, in other words, transferring the workload from one of fear in the pre-frontal cortex, to one of mastery in the basal ganglia.

8 'Leading change' John Kotter, Harvard Business Press

9 'The art of change' John Kotter, Harvard Business Press

So why is this important in business change leadership. Well, it supports the theory that business change can be an emotional journey, causing extremes of behaviour in those who are affected. It also suggests, given the reward mechanism for insights, that those who are affected by the change need to be empowered to work through the implications of new change. In other words, the role of the change leader is to provide the framework so that the users can master their own destiny, coming to terms with new change.

There is a model that you may have seen before, called the DREC curve. It explains the different phases of emotion that people go through when confronting major change. The acronym stands for:

1. Denial
2. Resistance
3. Exploration
4. Commitment

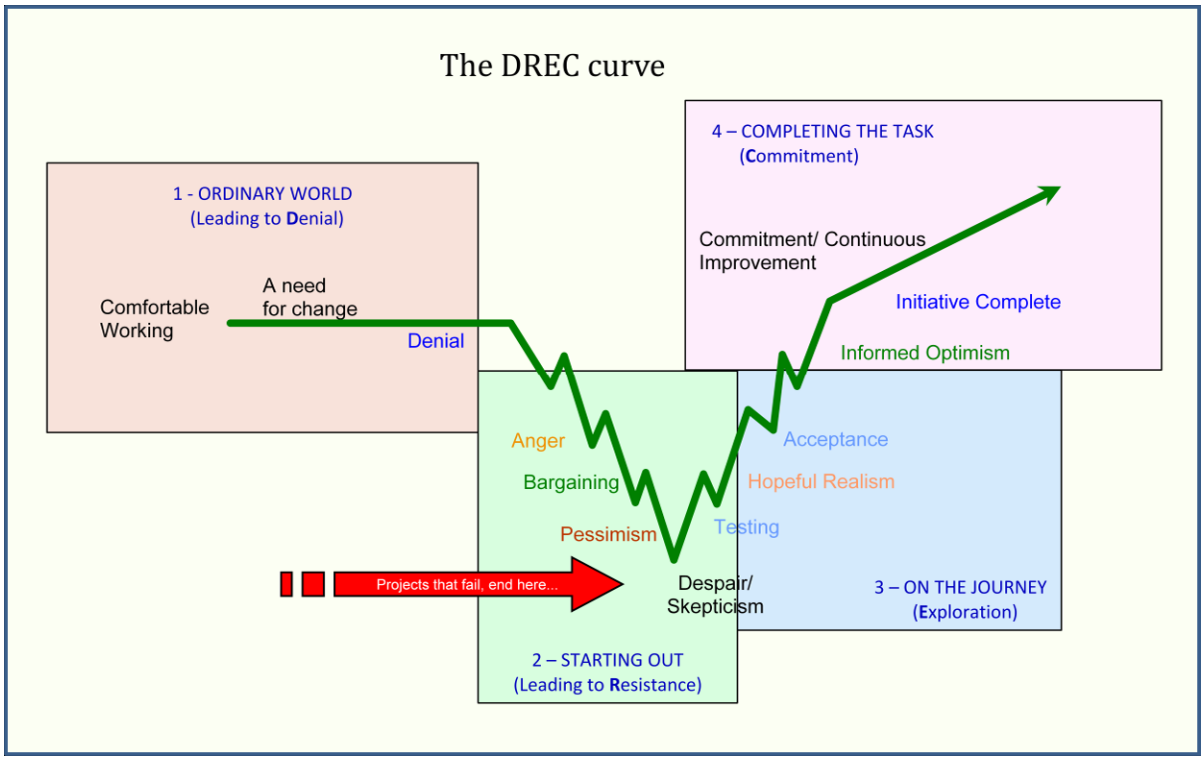


Figure 9

Phase one is our "Ordinary world", in other words, the world we are living in today. Suddenly, a new change programme is approved and the journey begins. If those who are directly affected by the change are not ready or prepared, a number of emotions will come to the surface. The first of these emotions is denial. Users tell themselves "I can't believe they will really do this." Then as things progress, denial may turn to anger. "This is absolutely the wrong thing for us to be doing. It could severely damage our business."

Emotions may build, as the project moves on often with a bargaining phase. "Why don't we start with the other region first?" Finally, they may move on to pessimism and despair, asking themselves, "I don't see how this will ever work."

We come to the bottom of the curve. If the project is going to fail, chances are, it will fail here. If we can get past this stage and move to phase 3, then we have a chance of being successful. The project starts to deliver some early results and those affected may get involved with verifying them (remember what we said previously about delivering step by step). Users may even recognize some value in what is being done. This cautious optimism builds, through hopeful realism and even acceptance.

As the project nears completion, there is an informed optimism. Those who have been involved through the change journey are now emerging on the other side. The theory of brain science says they will feel a sense of great satisfaction and achievement.

To summarize

- Changing the way we do things will often bring about an emotional reaction
- Large business change may bring about large emotional reactions
- As change leaders, we need to recognize the emotional journey, and help others to work through it

When you are embarking on a new change programme, think about how it would play out as a script. What would be the denials and the resistance to the programme? What sorts of obstacles would you need to overcome? What would the new 'ordinary world' look like? Thinking through a change journey as a film narrative can often be a good way to identify and hopefully address change issues early.

6.4 The importance of a good team

Given what we have said in the previous section about the emotional effects of business change, working on business change programmes isn't for everyone. And as an IT leader, it is your job to assign the right people to the right change programmes. There will often be difficult times to endure and it is all the more important, therefore, to have a good group of people around you who can work well in such situations. So how do you go about finding these people? The model shown in the matrix below may help you:

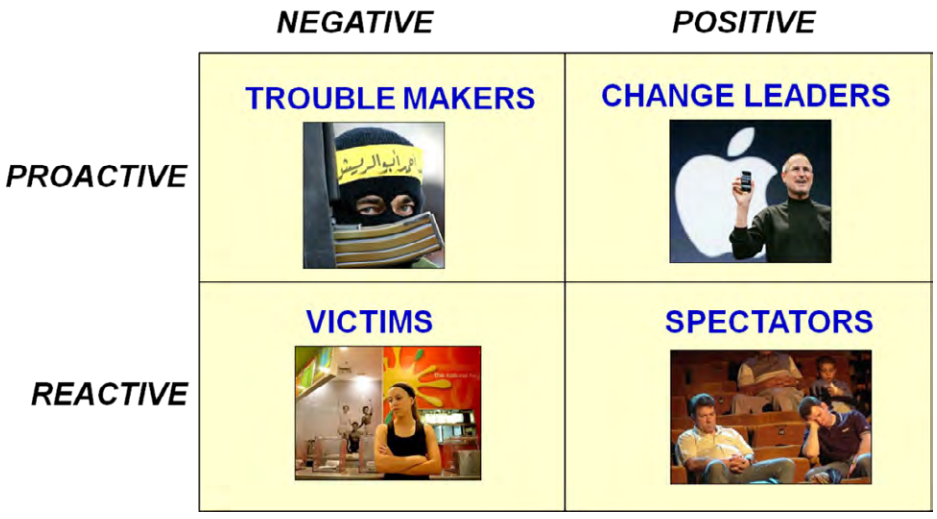


Figure 10

This model is a classic 'Boston matrix,' a two by two matrix, with positivity of outlook on the x-axis and level of proactivity on the y-axis. So, on the one hand, you need to consider whether someone has a positive or a negative outlook. And secondly, you will have those who are proactive and those who are reactive. You can see from the Boston matrix above that we end up with four personality types.

Jane's story
Background
We obtained approval for a large company-wide change programme. I had only been in my post for a short time and had been spending a disproportionate amount of my time looking at the budget numbers. The company had grown quickly through acquisition and our region comprised five different companies which had been acquired at different times over the previous few years. Two of them occupied the building where my office was situated - an office which was in great need of refurbishment.

What happened
One of my first tasks was to set the programme budget. The finance organisation had assigned someone from their department to work with me full-time. The first time that I had occasion to speak to her, I asked if we could meet up. Her office was 40 yards down the corridor through some double doors. Unfortunately, my security pass would not let me through these double doors. I looked through the small window in the door to the other side. The offices there were very smart, with a plush blue carpet throughout, emphasizing the stark contrast to my side.

I called the finance manager to tell her I couldn't get through. She said that the doors were permanently locked. It was a hangover from when the companies first merged. To get to her office I had to leave my side of the building, walk round to the other reception, sign in and then be escorted to her office. It seemed everyone had just got used to this. But from my point of view it represented a great fracture in the company and an obstacle preventing everyone from working effectively together. With the agreement of the managing director, we managed to get the doors opened. It became much easier for me to meet with my finance representative, taking care to wipe my feet first.

Lessons learnt
This incident gave me a real insight into some of rifts that existed in the company. If our change project was to be successful, we needed team members not only from all departments but also from different acquired companies and all levels of seniority. So that is what we did and the change team performed miracles.

Change leaders (High energy and positive) – Clearly the people you will want on your team are those with a positive outlook and who are proactive, in other words, fast moving. Surely, these are the people you recruited yourself! These are your champions, your change leaders, those you can rely on to inspire others and to make things happen. But as you look around you, you may find that not everyone fits into this category. Keep them informed of everything that is going on. Canvass their input and adjust your plans accordingly. Seek to provide them with more responsibility, not forgetting to transfer the authority needed to carry it out.

Spectators (low energy and positive) – these are your followers. They will do whatever the progamme leaders asks of them. Keep them motivated and engaged in the programme. Give them opportunities to take on new tasks. Spectators have a positive outlook, but typically do not have the same level of inspiration and proactive energy as your proactive change leaders.

Victims (Low energy and negative) –Victims often have other things on their mind. They are the ones that can see all the things that could go wrong, but do absolutely nothing about it. It seems logical to assume that they didn't behave like this when they were interviewed for the job. So presumably, something has happened that has caused them to move from positive to negative behaviour. Take time to understand their issues. If you are thinking of taking away their responsibilities, speak to them first. Get them to understand why you feel they are not contributing as they should. Keep them informed, even if keeping them motivated is not a good use of your energy.

Troublemakers (High energy and negative) – Troublemakers pose the greatest threat to your project. They are often well connected and can spread rumours and gossip that may undermine what you are setting out to achieve, or they may diminish the value of what you have achieved. What makes things more difficult is that they are usually very clever and fast moving. And what makes them doubly difficult is that it is not always easy to recognize them. They do not wear a bandana or balaclava. They will not openly oppose the change, but they will be working in the background, being helpful, but in an unhelpful sort of way. If you are the change leader, always be looking out for these people. Spend time with them and try to turn them around. They are unlikely to be irrational - just obstructive. If possible, involve them in part of the project with high kudos. If you can turn them round, it will do untold good to your project.

With reference to Jane's story on the previous page, on her side of the office people were behaving as Victims and on the Finance manager's side they were behaving like Spectators until Jane took proactive steps to break down the barriers

If the plan for the future is radical, the current team may not possess the skills or desire to make it happen. If so, think about changing the team members. This is easier said than done, because you will not only have to recruit the right people, you may also need to move others out of the way. It may have a knock-on effect on the morale of the remaining team members. When making team changes, be bold and make them early.

7 Outline of the top project frameworks

For many years, the IT profession was concerned about the high rate of project failure. It seemed that many of the same mistakes were being made again and again. To try and stem the tide of project failure, a number of best practice frameworks were put in place. Two are them, namely PRINCE2 from the OGC and PMP from the Project Management Institute are described in the next two sections. Now, let us be clear here. Just because you are using a best practice framework does not mean that you project will be successful. Many of the reasons for project failure cannot be described in a process manual, any more than following a recipe in a cookery book will ensure your cakes will come out perfectly! There will still be projects that fail. Nonetheless, following any methodology is better than not following any methodology. Why? Because a methodology allows you to repeat success rather than to risk failure.

7.1 International standards

For any manager to be successful in managing a project themselves, or overseeing a group of projects, clearly they need to have a good method in place.

There have been several attempts to develop project management standards, such as:

PRINCE2 - PRojects IN Controlled Environments.
Association for Project Management - Body of Knowledge
Capability Maturity Model - from the Software Engineering Institute.
The ISO standards ISO 9000 - a family of standards for quality management systems
GAPPS, Global Alliance for Project Performance Standards – an open source standard describing competencies for project and programme managers

The most common methods are PRINCE 2[10] and the PMI[11] method. To find out more, the following two references will help - "PRINCE2 - What you need to know" and "the Project Management Book of Knowledge" and I commend both of them for those who are interested in learning more about these methods. In addition, for anyone aspiring to manage or already managing projects, it makes eminent sense to become qualified and there are many companies world-wide who can provide the accreditations necessary.

7.2 PRINCE2

Published by the UK Government agency CCTA in 1989, Projects in Controlled Environments (PRINCE) became the UK standard for all government information systems projects. It was upgraded in 1992 to become the PRINCE2 standard we know today. It is a process-based project management method as opposed to a more adaptive method such as found in agile development type projects. It has been enhanced over time, with more recent updates in particular making it simpler to use and better integration with other OGC methods (e.g. ITIL, P3O, P3M3, MSP, M_o_R etc.).

PRINCE2 is the framework most commonly used in the UK. It provides proven best practice, a common vocabulary and can be used on any type of project. PRINCE2 is based on seven key principles.

7.3 Project Management Institute

The Project Management Institute, Inc. (PMI) standards and guidelines are developed through a voluntary consensus standards development process. PMI administers the process and establishes rules to promote fairness in the development of consensus. The standards and guidelines are contained in the Project Management Book of Knowledge (PMBOK), a book that we would also recommend to anyone interested in project management as a recognized standard for project managers world-wide.

10 'PRINCE2 - What you need to know' © Crown Copyright 2009. Reproduced under licence from the Cabinet Office.

11 'Project Management Book of Knowledge' from the Project Management Institute

The PMI framework consists of five Project Management Process Groups, each of which is required for every project. The Process Groups have clear dependencies and are typically performed in the same sequence. They are not separate project phases. Projects, particularly IT projects, are of course normally divided into phases or sub-projects, such as feasibility study, concept development, design, prototype, build and test. All of the Process Groups would normally be repeated for each phase.

7.4 Agile Development

Agile methods are sometimes characterized as being at the opposite end of the spectrum from *plan-driven* or *disciplined* methods such as the PRINCE2 or PMI frameworks.[12] The key theme is that they are versatile, adapting to the speed of changing business requirements, or practically speaking, allowing business users to evolve their ideas through the development process. "We don't know exactly what we want, but we can tell you what we don't want, and we will be able to better explain it if you put something in front of us." Agile methods have much in common with the Rapid Application Development techniques from the 1980/90s.

An adaptive team cannot report exactly what tasks are being done next week, but only which features are planned for next month. When asked about a release six months from now, an adaptive team might be able to report only the mission statement for the release or a statement of expected value vs. cost.[13]

Agile Manifesto

In February 2001, 17 software developers published the *Manifesto for Agile Software Development*. Twelve principles underlie the Agile Manifesto, including:

1. Customer satisfaction by rapid delivery of useful software
2. Welcome changing requirements, even late in development
3. Working software is delivered frequently (weeks rather than months)
4. Working software is the principal measure of progress
5. Sustainable development, able to maintain a constant pace
6. Close, daily co-operation between business people and developers
7. Face-to-face conversation is the best form of communication (co-location)
8. Projects are built around motivated individuals, who should be trusted
9. Continuous attention to technical excellence and good design

12 In fact, Agile and PRINCE2 are not mutually exclusive. It is possible to use the PRINCE2 governance framework and to treat each SPRINT iteration as a Work Package.

13 We are grateful to VersionOne for their expertise and their summary of agile methods which is outlined here. More information can be found on their website www.versionone.com

10. Simplicity
11. Self-organizing teams
12. Regular adaptation to changing circumstances

Predictive methods, in contrast, focus on planning the future in detail. A predictive team can report exactly what features and tasks are planned for the entire length of the development process. Predictive teams have difficulty changing direction. The plan is typically optimized for the original destination and changing direction can require completed work to be started over.

Characteristics

There are many specific agile development methods. Most promote development, teamwork, collaboration, and process adaptability throughout the life-cycle of the project. The agile method breaks tasks into small increments with minimal planning and do not directly involve long-term planning. Iterations are typically last from one to four weeks. Each iteration involves a team working through a full software development cycle, including planning, requirements analysis, design, coding, unit testing, and acceptance testing when a working product is demonstrated to stakeholders. This minimizes overall risk and allows the project to adapt to changes quickly. Multiple iterations are usually required to release a product or new features.

For agile methods to work, stakeholders need to be more closely involved in the development, more tolerant of the software not doing what is required first time out, but welcoming of the fact that not everything needs to be documented in detail. The teams are often highly collaborative and usually quite egalitarian. It is very helpful for the agile teams to be located in the same office to maximize communication. Although collaborative, the agile team needs a customer representative who is fully committed to the project. One thing we have learnt over and over again is that if too many project members are assigned to work part time on the project, the project will usually fail.

Well-known agile software development methods include:

1. Agile Modelling
2. Agile Unified Process (AUP)
3. Dynamic Systems Development Method (DSDM)
4. Essential Unified Process (EssUP)
5. Exia Process (ExP)
6. Extreme Programming (XP)
7. Feature Driven Development (FDD)
8. Open Unified Process (OpenUP)
9. Scrum
10. Crystal Clear
11. Velocity tracking

Some of the main ones are summarized as follows:

Scrum

In Scrum, the "Product Owner" works closely with the team to identify and prioritize system functionality in form of a "Product Backlog". The Product Backlog consists of features, bug fixes, non-functional requirements, etc. - whatever needs to be done in order to successfully deliver a working software system. With priorities driven by the Product Owner, cross-functional teams aim to deliver "potentially shippable increments" of software during successive Sprints, typically lasting 30 days. Once a Sprint's Product Backlog is committed, no additional functionality can be added to the Sprint except by the team. Once a Sprint has been delivered, the Product Backlog is analyzed and reprioritized. Scrum has been proven to scale to multiple teams across very large organizations (800+ people).

Extreme Programming (XP)

XP promotes high customer involvement, rapid feedback loops, continuous testing, continuous planning, and close teamwork to deliver working software at very frequent intervals, typically every 1-3 weeks. In XP, the "Customer" works very closely with the development team to define and prioritize granular units of functionality referred to as "User Stories". The development team estimates, plans, and delivers the highest priority user stories in the form of working, tested software on an iteration by iteration basis. In order to maximize productivity, the practices provide a supportive, lightweight framework to guide a team and ensure high-quality software.

Crystal

The Crystal methodology is one of the most lightweight, adaptable approaches to software development. Crystal is actually comprised of a family of methodologies (Crystal Clear, Crystal Yellow, Crystal Orange, etc.) whose unique characteristics are driven by several factors such as team size, system criticality, and project priorities. Like other agile methodologies, Crystal promotes early, frequent delivery of working software, high user involvement, adaptability, and the removal of bureaucracy or distractions. Alistair Cockburn, the originator of Crystal, has released a book, "Crystal Clear: A Human-Powered Methodology for Small Teams".

Dynamic Systems Development Method (DSDM)

In 1994 the DSDM Consortium was created and convened in 1994 with the goal of devising and promoting a common industry framework for rapid software delivery. Since 1994, the DSDM methodology has evolved and matured. DSDM specifically calls out "fitness for business purpose" as the primary criteria for delivery and acceptance of a system, focusing on the useful 80% of the system that can be deployed in 20% of the time.

Requirements are baselined at a high level early in the project. Rework is built into the process, and all development changes must be reversible. Requirements are planned and delivered in short, fixed-length time-boxes, also referred to as iterations. Requirements for DSDM projects are prioritized using MoSCoW Rules:

M – Must have requirements
S – Should have if at all possible
C – Could have but not critical
W – Won't have this time, but potentially later

The DSDM project framework is independent but can be implemented in conjunction with, other iterative methodologies such as Extreme Programming and the Rational Unified Process.

Lean Software Development

Lean Software Development is an iterative methodology originally developed by Mary and Tom Poppendieck. Lean Software Development owes much of its principles and practices to the Lean Enterprise movement, and the practices of companies like Toyota. Lean Software Development focuses the team on delivering Value to the customer, and on the efficiency of the "Value Stream," the mechanisms that deliver that Value. The main principles of Lean include:

1. Eliminating Waste
2. Amplifying Learning
3. Deciding as Late as Possible
4. Delivering as Fast as Possible
5. Empowering the Team
6. Building in Integrity
7. Seeing the Whole

Lean eliminates waste through such practices as selecting only the truly valuable features for a system, prioritizing those selected, and delivering them in small batches. It emphasizes the speed and efficiency of development workflow, and relies on rapid and reliable feedback between programmers and customers. Lean uses the idea of work product being "pulled" via customer request. It focuses decision-making authority and ability on individuals and small teams, since research shows this to be faster and more efficient than hierarchical flow of control. It concentrates on concurrent work and the fewest possible intra-team workflow dependencies.

8 In conclusion

8.1 Take time to reflect

This book summarizes the lessons we have learnt in managing IT projects and programmes and in business change leadership from other IT managers. I have tried to include the most valuable lessons from my own project management experience and that of delegates from our courses. I hope you found them valuable and will continue to add your lessons learnt to this list. There is nothing more valuable than a checklist for when you are running your own major program, or overseeing the projects of others.

8.2 Staying ahead

The fact that you have taken time to read and think hard about the ideas presented suggests that you are already keeping up to date with the latest thinking in our field. IT is fast changing and new technologies provide us with new and interesting opportunities. Many of the management disciplines we need, fortunately, do not change as fast, but it still helps to keep up to date. My most useful references are the Harvard Business Review, CIO Magazine and the Economist. I am also an avid reader of business books. You may also be interested in the other three books in our series:

- IT Management - Managing people
- IT Management - IT strategy and technology innovation
- IT Management - IT business and operational excellence

If you would like some advice on any of the topics, please feel free to email me at david.mckean@itleaders.co.uk.

We are also interested in your own experience and project lessons learnt, so feel free to forward me your stories. We also welcome your feedback on this book and your suggestions for how we can continue to improve it.

Good luck!

David McKean