

project capability improvement

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Lastly, we must thank our partners and backers for giving us the time off from fee earning work to ‘see beyond the obvious’. Especially Graham Terris.

Introduction

When we started our work, it was to answer a very simple question: Why is it that so many complex projects fail, despite being managed by teams of apparently capable people?

The outcome was a collection of valuable insights which enabled us to put together the framework of our Project Capability Improvement method. This allows us to improve an organisation's success with complex projects - those with multiple objectives, linked to dynamic strategic needs and serviced by more than one group of people. In some organisations, what we refer to as 'complex projects', might be referred to as 'programmes'.

The requirement for improved project capability may manifest itself in many ways: It may be that a specific project has started to fail (project recovery), or recognition that competitive advantage can be gained by being able to carry out complex projects more effectively.

Our initial interest came from an awareness that many complex projects were under-performing and that there was a tendency to respond inappropriately when difficulties were encountered. Often, it seemed that instead of finding and fixing the underlying cause of a problem, symptoms were being treated as if they were the causes themselves. We observed that in many of these cases, the causal factors for difficulties were 'outside' of the project and that this fact was not being recognised - particularly when the project team found themselves under stress...

The report includes a general treatment of our research into the factors affecting an organisation's ability to achieve success with complex projects. Whilst our approach was rigorous, our primary aim was to arrive at a pragmatic, workable approach to project capability improvement.

In response to specific requests, we have intentionally highlighted our findings relating to management and team behaviour.

The Authors

The Authors and their Work

Over the last decade Richard Byford and Kevin Potts have worked on parallel paths in their approach to project management and man-aging complexity. Their ideas have been stimulated by the recognition that project management methods have not always kept pace with changes in the business environment. After some collaborative research, they have developed a new project management capability to meet the demands of rapid change.



Richard Byford (left) with Kevin Potts

This new capability is based on an integrated set of structured reviews – examining the human side of the project and how this interacts with project goals and processes. The method captures project behaviours and conditions, separating symptoms from causes. The analysis of the resulting data forms a comprehensive and robust benchmark of hard and soft project dynamics – enabling management to make informed and balanced decisions.

Richard Byford has a wide experience of project management, which started in the heavy industry sectors of petrochemicals, naval engineering and R&D. His interest in leadership, coaching and training led him to become a front-runner in specialist software training for managers. After gaining his MBA, he set up his own company developing ERP software and advising on the integration of technology into fast-growing small businesses.

Kevin Potts is a widely experienced systems engineer and project manager. His work spans national, international, public and private sector projects – mainly in the defence, aerospace and communications industries. After taking a leading role in the successful delivery of the UK's air Traffic Control project, he set up his own business delivering people-centred project management solutions.

The Research – and Observations

Scope of Review

During a two-year period from January 1999, we conducted a series of surveys, sent questionnaires and interviewed over 150 project managers. We also reviewed recent published research and data on complex projects including the National Audit Office and the Cabinet Office, as well as various project organisations and businesses. This section of the report contains a summary of the most interesting and pertinent observations.

Published Data and Educational Sources

The subject of project management has been well documented – the volume of published material over the last twenty years is enormous. Despite the extensive coverage, most published material keeps to a well-trodden territory of knowledge and only a small percentage could be described as innovative.

Several sources of knowledge have been universally recognised by project management professionals. These ‘Bodies of Knowledge’ generally have similar style and content – prescriptive; detailed; broad-ranging, covering subjects from resource management through configuration management to leadership. Bodies of Knowledge produced by the Association for Project Management, the Project Management Institute and the Software Program Managers’ Network – *Best Practice*, were amongst the most popular. The majority of experienced project managers were familiar with at least one of them – less experienced project managers were unaware of any.

The vast number of ‘How to do it’ guides, manuals and textbooks, is matched by the number of ‘What Went Wrong’ publications. Our observation is that either too few people read the literature, or that the knowledge hasn’t been successfully conveyed. It may also be possible that project management knowledge is not yet mature.

From an educational perspective some project management training imparted knowledge about methods, tools and techniques but didn’t address underlying attitudes, motivation or concepts – allowing old habits to undermine new ideas.

Project Management Competence

We looked at a wide spectrum of organisations that undertake complex projects. To make sense of the differences in their project management capability we found it helpful to partition them into four broad categories:

Category A. No recognisable project management practices in place, or only fragments of it found in disparate procedures.

Category B. Project management processes in place, but not fully integrated throughout the organisation. Few measured processes and little feedback of lessons learned – or lessons not actioned. These organisations relied heavily on Project Support Office and Professional Services Automation methods and tools – widely available from a large number of suppliers offering a surprisingly narrow range of products and services. Many organisations adopting project management as a formal discipline for the first time were adopting a ‘method’ such as PRINCE 2.

Category C. Established integrated project management processes, running concurrently with organisational ‘improvement’ processes such as TQM, Quality Function Deployment, Baldrige, Business Excellence Model, Balanced Scorecard or Six Sigma. These ‘improvement’ processes assisted measured feedback of project performance and helped in providing organisational learning.

Category D. *Category C* project management competence established; teamwork and stakeholder management awareness. Organisationally this was evident through concepts such as Integrated Project Teams (IPT’s), Organisational Alliances and Partnering. Within the project team there was clear evidence of attention being paid to team dynamics and the value of diversity within the team (Belbin, Myers-Briggs or TMS).

These categories serve as a simple guide to project management competence, but it should not be assumed that all organisations can be neatly slotted into the above partitions. However, the concept of capability maturity is a useful one, especially for organisations about to embark on a project which is bigger or more complex than those previously managed.

Across the spectrum of organisations, there is a tendency to be inwardly focused on project management performance and the lack of recognised maturity models serves to preclude reference to external benchmarks. This has sometimes resulted in organisations undertaking large-scale complex projects without realising their lack of capability at the outset.

We noted that *Category A* organisations without basic project processes invariably fail to manage complex projects successfully. There is no evidence of any short-cut to acquiring basic project management processes. There is a lot to absorb, and understanding, as in most learning, associates more closely with experience than with technique acquisition. Many organisations without these basic processes are recognising their deficiency and this is reflected

in the demand for project management training. (Over ninety training companies in the UK).

Even category C organisations operating ‘best practice’ in most of their project management processes found themselves disadvantaged when compared to others who had better integration between processes.

Part of the reason for this is undoubtedly due to the resources required to create well-integrated processes. However, it seems to be more important to have adequate processes that are comfortably meshed to each other, supported by appropriate policies and appropriate to the culture of the stakeholder environment.

The majority of organisations had project and organisational processes ‘bolted’ together, reflecting incremental development. Whilst methods like PRINCE 2 have been described as project management ‘systems’, their scope sidelines important organisational, business or ‘people’ factors. These are the aspects that *category D* practitioners have attempted to integrate within their project management framework.

Organisational Factors

Amongst senior experienced project managers, there was often an acceptance that projects rarely go according to plan and that there was little that could be done to ensure full project success. However, organisations and businesses outside the project management profession had higher expectations. They believed that projects, properly planned and managed, would run to schedule and achieve almost total success. It therefore appears that even before many projects start, the expectations of the receiving ‘customer’ organisation are higher than those held by experienced managers of the project delivery team.

Whilst we were able to distinguish four broad levels of project management capability, we found that from an organisational perspective, the perception about capability was often strongly linked to past performance or future expectations. Our sample level was small in this particular area, but it was noticed that ‘younger’ organisations were self-assured, lacked track record and were optimistic about their capability, even though they were generally at *category A or B* capability. Established organisations had more cautious views about their capability. They were managing on capability *category C or D*, but were finding it difficult to improve – matching some of their managers’ expectations that significant improvement was not realistic.

We noticed the high incidence of projects with under-developed strategic foundation – the reasons for doing the project and how the project met broader organisational and business goals. This situation was compounded by project teams who considered it unnecessary to understand this aspect of the project and organisations that encouraged this view.

Project Dynamics

From a wide range of project sources we compiled a long list of observable or measurable signs, which one or more of the projects' stakeholders viewed as a mark of failure or underperformance. Many of these were technical in nature and so had to be re-framed in generic terms. After considerable refinement and deduplication, we arrived at a list of 122 'symptoms'. The list is clearly not exhaustive: We expect to add to the list over time as we have the opportunity to document further projects.

Whilst the symptoms were of interest, they didn't enable the causes to be directly attributed. In closely examining a small number of projects and reflecting on how these symptoms were generated, the underlying causes were gradually exposed. What we started to see was the reason for much of the dysfunctional management in and around complex projects

A preoccupation with symptoms can lead to the imposition of undesirable constraints on how a team manage projects.

By focusing on a few conspicuous aspects of project performance, management can unwittingly broadcast a message that there is a single prescriptive method for assuring project success. Examples from projects we examined included: That the customer's goals were the only goals that mattered; That control can only be achieved by the use of highly formal processes; That the attainment of arbitrary milestones would guarantee timely delivery of the whole project on schedule.

An interesting observation from the analysis is that project managers often pull the wrong levers when trying to solve a problem, believing that by taking the 'obvious' action to treat the symptom, would cause the problem to be cured.

Causes of problems are often tenuously linked to multiple symptoms and therefore not obviously connected. The implication of this is that if the dynamics of the linkage can be understood, the project team can begin to access the tremendous leverage that is available. Small changes can be made to create large results.

Understanding the web of causal relationships in a complex project requires particular intellectual skills and a systemic approach – but these were not always innate and therefore require development.

Amongst those we interviewed we found strong indications that some managers are intimidated by complexity. Their primary response was to simplify and focus on (sometimes arbitrarily chosen) 'key' project attributes. Another response to complexity was to increase the number of formal processes and procedures, reducing the scope for innovative and creative thinking – opportunities for reducing costs and delivery times, or providing novel solutions to difficult problems.

We also concluded that subject of project management is often too narrowly interpreted. This view agreed with other researchers who had found that many experienced project managers saw their role as limited to driving the project forward from within. The relationship with the business/organisational strategy and that of other stakeholders was frequently marginalised.

Marginalisation can also disenfranchise the project team from the remainder of the organisation. If projects are to be nurtured by the organisation that commissioned them, then they must find a way of working together more effectively. This clearly requires effort and skill on the part of the project delivery team, but they cannot do this by themselves. Many project practitioners were concerned about the low level of understanding the ‘customer’ organisation had of their own role in the project. The list of concerns were long and diverse, from executives ignoring project teams because they were out of sight from the operational business, to customers not understanding the implications of demanding casual changes.

However, the central issue was the same; Just as project teams are responsible for injecting the energy to ‘push’ the project forward, so stakeholders outside the project team must acknowledge their role in ‘pulling’ the project to a successful conclusion.

Team Dynamics

We looked for an association between individual or team competence and project success or underperformance/failure. For a definition of competence we compared skill levels to those found in personal qualities and experience specified in job advertisements, as well as self and peer assessment

Good people find themselves working on failing projects

We asked a sample of eighty project managers and people responsible for major projects what sort of personality types they thought would be useful on a project team. Dynamic, resourceful, helpful, tenacious, hard-working, optimistic were all popular replies.

Then we looked at a range of projects that either failed conspicuously or ran into difficulties. We were surprised to find that some of the very qualities cited as being essential in project workers were often the ones that seeded the problems:

***Dynamic:** Get too many things started at once*

***Resourceful:** Choose a solution even before the problem is fully understood.*

***Helpful:** Go out of their way to satisfy all other stakeholders*

***Tenacious:** Keep on doing things even when they don’t yield results*

***Hard-working:** Will burn out rather than ask for help*

***Optimistic:** Always the bearers of good news (even when it isn’t...)*

The examples above illustrate how common management behaviours can backfire in a project situation. In reality, similar examples can be found in virtually any area of management.

We found that there was only a weak correlation between the competence of the team and their ability to deliver complex projects satisfactorily. In other words, competent people can find themselves in under-performing projects. This finding suggested that project success is not assured solely by the employment of capable people in the project team.

We were equally struck by how many organisations believed that ‘strong’ leadership was a vital ingredient to project success. However, whilst it was possible to correlate strong leadership with project performance, it wasn’t always linked to success.

Further surveys looked at how project teams spend their time in meetings. We discovered that in many teams, a large proportion of their meeting time was spent discussing past events, even when it had little bearing on future progress.

When we analysed the contributing factors to project overruns, we discovered that among the list of ‘usual suspects’ there was a new insidious factor. We found that from a large and diverse sample of experienced project managers, they spent just under 50% of their time dealing with problems attributed to relationships within and outside the project team.

When we observed project teams conducting meetings, we found a tendency in some of them to devote a disproportionate amount of time to the past and present – which they could not control – at the expense of the future. Drucker refers to this as ‘managing via the rear-view mirror’.

Teams that were conscious of the need to form a balance between review (past and present) and planning (future), turned out to be the ones most likely to deliver better control of the project’s future.

Experienced project managers frequently stated that they felt reasonably satisfied with their personal contribution to the management of projects. They felt they had a reasonable grasp of the elements of project management. The difficult bit – we were told – was understanding how to put it all together, making the whole, greater than the sum of the parts.

When it came to ‘putting it all together’ we noticed how many experienced managers were apparently intuitive in problem solving. The longer a team had worked together the more intuitive the management decisions became – in other words, the rationale disappeared. This is a natural phenomena observed in maturing

teams, but could this be counter productive when managing complexity?

Decisiveness is quite rightly seen as a useful aspect of personality. When decisions are particularly urgent or have limited impact on other aspects of a project, a team member's ability to make decisions by 'instinct' is invaluable. Whilst observing teams making more complex decisions, however, we noticed that having more than one person in the team with this trait well developed, could be a serious cause of conflict.

The seed of the conflict was sown when others in the team recognised similarities with previous problems, but where their individual solutions for success were different. The absence of a communicated rationale - intuitive decision making - was the cause of much misunderstanding and frustration. Another source of confusion stems from group recognition of problem similarities, but individual blindness to situation differences. Hence each member of the team can become a 'slave to his own experience' by believing that all new solutions are echoes of past successes.

Despite the high incidence of this phenomenon, the solution is relatively straightforward and can have a dramatic effect on the quality of decisions taken by the team.

We noticed that intuitive team problem-solving could also be turned to advantage. If the team held a shared model of the project operation and goals, it reduced the tendency to over-proceduralise when faced with high-complexity – a feature that we had noted when studying successful teams and how they handled high task complexity.

When we examined how organisational aspects contributed to shaping team behaviour, we noted that an organisation's personnel and reward policies and practices frequently provided tacit encouragement for particular behaviours. Both so called 'strong managers' and 'fire-fighters' tend to have a high profile. By contrast, the ability to avoid crises and make measured judgement – appropriate to circumstances – rarely gets noticed. The way project managers are recruited and performance judged, could have a major impact on the internal culture of projects.

Principles for Improving Project Capability

In the previous section we showed that from a starting point of a simple question ‘why do capable people find themselves on failing projects’, our research led us through concepts which have formed the backbone of project management knowledge for many years. Our discoveries (more precisely, the lack of them) encouraged us to progressively widen our investigation of the factors that block project success – even for experienced project managers.

When developing our framework for a method to improve project capability, we were greatly influenced by the following thoughts.

Integrated Project Management

The research showed that the individual components used to conduct project management are well developed, especially in the process area. But some of the components such as the project’s strategic foundation and stakeholder-team dynamics, do not appear to have matured as equal partners in the project management portfolio. This imbalance seemed to be the cause of considerable project inefficiency and ineffectiveness.

We have used a construction analogy to help understand the mutual dependence of this project management portfolio. Project management processes are like the bricks of a building – not usefully employed without a design. The design or architecture relates to the project’s strategic foundation – size, complexity, interfaces, utility, cost etc. The bricks are given form and strength by the appropriate ‘glue’ – the adhesiveness of which is determined by the stakeholder and team dynamics.

We are convinced that balancing these three aspects correctly enables projects to maximise their performance.

Project Mental Models

We found that by examining the 122 symptoms of ‘project health’ that we had gathered in our research, we were able to identify 69 underlying organisational factors. Without going into all of them in this paper, we have abstracted these into 14 ‘meta-dynamics’, grouped under three main project facets. We noted these dynamics (and associated sub-dynamics) were commonly used by successful,

experienced project managers, forming their 'intuitive' framework for managing projects.

The meta-dynamics were:

Stakeholders

Team Organisation
Track Record
Culture

Strategic Foundation

Common Ground
Strategic Objective
Project Objectives

Processes

Systems Approach
Process Management
Measurement
Review/Validation
Risks/Opportunities
Programme Management

Entry/Exit Criteria

Change management

Leading academics have observed that if teams share a mental model of tasks, organisations and processes, it greatly boosts the probability of successful task completion. To the authors' knowledge, the idea of a 'project mental model' has not been previously recognised. The application of the concept provides an opportunity to improve many aspects of project management, including the learning process, itself.

Other Factors

- Project management capability is not yet being benchmarked by externally recognised comparisons, leading to false perceptions about core management competence.
- The project manager's participation in the business/organisational strategy was frequently marginalised. Insufficient consideration given to the integration of individual projects with other projects or organisational improvements, running concurrently, led to underperformance of the business/organisation as a whole.
- Energy and appropriate motivation play an important role in enabling the project team to 'push' the project forward. But this must be matched with the right skills and energy in the receiving 'customer' organisation, who must help in 'pulling' the project to a successful delivery.
- Stakeholder management can sometimes be made dysfunctional by conflicting goals, cultures or processes.

Implementing Project Capability Improvement

The process described below is presented as the basis for conducting a programme of improvement for a project team engaged on a 'live' project. The process and information required is based on the research and analysis described in the preceding parts of this paper.

The basis of the improvement system is a four-phase framework of activities:

- Information Gathering
- Analysis of data
- Design Remedies
- Deliver and Test

Information Gathering

Preliminaries

It is important that a well-planned and coordinated review is conducted and that the programme of enquiry has purposeful questions, asked with a clear understanding of how the answers will be used. Good planning enables the review effectiveness to be maximised and minimises effort and time needed to complete the work.

The recommendations from any previous assessments or 'lessons learned' programmes should be reviewed and noted. The extent to which these recommendations are actioned gives an insight to how effectively the organisation learns. Throughout the information gathering, attention should be paid to how well these previous improvements have been integrated and managed.

The data gathering can be grouped under three main project facets. For each section, a clear picture has to emerge about what has been attained compared with an initial idea of what is needed. At the start of the review it should be established if there are any capabili-

ties already targeted for improvement. However, it is not until completion of the review's data gathering and analysis stages that an informed view about development needs can be confirmed. (Without proper analysis, inappropriate remedies might be chosen)

Strategic Foundation

The strategic foundation of the project provides key parameters about what's needed, and links it to the organisation's strategic intent. Project success is linked to how well the strategic foundation is managed.

The assessment should ensure that the strategic foundation of the project is understood. Below are some of the more important questions that need to be answered:

- History and current positioning of project goals – develop a view about how they will be measured, why they are important, how they might change, who 'owns' them?
- What will happen if the strategic goals are not met?
- Who has been or will be, involved in the project? – develop an understanding of stakeholder interests, this includes 'negative' stakeholders (those who are adversely affected by the project)
- Identify the extent of common ground of the various stakeholder's goals. To what extent are stakeholders' interests embedded in the project's goals? Is any stakeholder's interest not represented at key reviews?
- Do the expectations of the project delivery team differ from those of the receiving organisation? Could differences of expectation block progress or stop the project from being successful?
- Is it clear how the project integrates with business objectives and other projects?

The answers to these and other relevant questions will provide information about how well the strategic aspects of the project have been considered. The data should be checked from multiple sources and if possible extend across stakeholder boundaries – but this is a matter of judgement, as some reviews may have sensitive commercial or organisational components. The key aspect is not to bias the results due to inadequate sampling.

Process Capability

The capability of the organisation to select and manage appropriate processes for projects is the key to doing assured quality work, reliably and efficiently. (The processes that we refer to here are those that are found in and around methods such as PRINCE 2)

When considering what processes should be in place, care needs to be taken not to be over-prescriptive – this will lead to stifling the team's innovation and creativity. Informal processes form an important part of a project team's ability to work cohesively. In particular the team's mental project management model – how it

thinks about project management problems – should be investigated. Listed below are some of the more influential dynamics of the project mental model that was developed as part of this research. These represent the higher-level dynamics that are under-pinned by a detailed contributory layer.

- Systems Approach – does the team adopt a systemic thinking approach?
- Process Management – does the team know when *not* to proceduralise?
- Measurement – are measures objective, how is subjectivity managed?
- Review/Validation – is review information appropriately validated?
- Risks/Opportunities – are risks balanced by opportunities?
- Programme Management – does the team understand its dependencies?
- Entry/Exit Criteria – are there unambiguous start and finish conditions?
- Change management – how do changes get assessed and managed?

When collecting information about the formal project management processes, be aware of the scale and complexity of the project, because this will partially determine the required capability to manage successfully.

To avoid developing a false capability assessment, be sensitive to the perceptions people have – where possible, validate perceptions with direct observation and objective evidence.

Determine the organisational and project process coupling – do processes connect together, supporting project/organisational information and knowledge transfer?

Look for the maturity of management processes – do they trigger management action for exceptional problems such as project viability and project recovery?

Once the information has been collected on informal and formal management processes, and before the analysis is started, the range and balance of processes should be considered. A basic mapping method will help to correlate processes with organisations and objectives. Doing this activity now will help prevent getting part way through the analysis, only to find significant gaps in the understanding of fundamental process, organisational and strategic issues.

Stakeholder Dynamics

This section of the capability assessment is about how teams and organisations work together and is the most difficult to objectively measure. However, subjective assessment is satisfactory providing it is not biased by inadequate sampling.

The complexity of stakeholder dynamics and its influence on the project varies from project to project, but core elements will be common. The following aspects form the basis of the line of enquiry:

- What level of rapport exists between the project team and other project stakeholders?
- How efficient and effective are communications between project stakeholders?
- Does the project manager use appropriate leadership styles?
- Does the team use an effective range of persuasion techniques?
- Is the team balanced, exhibiting a range of management behavioural capabilities?
- Is motivation generated appropriately?
- Does stakeholder reputation condition capability/behavioural expectations?
- Are individual stakeholders past or future focused?
- Is there a well-developed 'push-pull' relationship between the project team and the receiving organisation?
- Does the team and stakeholder organisation enable work to be conducted effectively and efficiently?

Looking for Symptoms

During data gathering the symptoms of underperformance should be recorded. Below, is a small sample of the symptoms we used in our research:

- Users keep changing their minds about the requirement
- Denial that anything is wrong
- Disagreement about the solution
- Activities take longer than planned
- Plans based on, 'if everything goes to plan'

As mentioned earlier in this paper, we have identified 122 project symptoms commonly found in projects. These symptoms (attached to success and underperformance/failure) were observed at various stages throughout the life of projects. The inclusion of so much detail would overwhelm this paper, and the information forms proprietary knowledge for the authors. However what is required is an auditable trail of reported project weakness.. Having a planned list of questions covering the scope and complexity of the organisation, reduces the assessment time significantly.

Information gathered in this phase can be obtained by a variety of methods including: Direct observation; Informal and structured interviews; Questionnaires and written submissions such as plans, procedures and standards. For complex projects a database for the information becomes essential, especially for the next phase.

Analysis

Once the data has been collected and recorded, analysis can begin. To start, each of the three project facets is separately analysed and the causes of under-performance identified. Subsequently a fully integrated project analysis is developed and validated.

Strategic Foundation

The analysis should focus on the causes of strategic foundation uncertainties, ambiguity, conflict, invalid assumptions and data inaccuracies. Anything that does, or has the potential to cause the strategic foundation to be undermined, should be analysed and attributed to a cause.

The causes should be associated with the symptoms that were observed during the data-gathering phase, thus strengthening the causal analysis. Some cause/effect mapping might be necessary to fully understand how the more complex dysfunctional symptoms relate to project goals, management processes or stakeholder/team behaviours.

Process Capability

Underperformance in processes will be evident from poor or erratic quality in products and services – so it should not be difficult to build a map and attribute the symptoms of underperformance. However, care should be taken in assuming that there is always a direct relationship between cause and effect.

For instance, poor quality requirements may not be attributable to immature requirement management methods – it could also be caused by time constraints or inadequate experience or training. Whilst associating symptoms with causes, don't forget to associate the informal 'mental models' that contribute to the overall picture. The skill needed, is to keep looking for the root cause and when found, try to validate it by appropriate corroboration – be clear about cause and effect.

Stakeholder Dynamics

Before you can start to understand the full implications of the influence of all the stakeholders, you must be able to understand how their wants, needs and expectations interact with projects.

This should also be considered for the the project team. Analysis of how stakeholder and team organisation affects behaviour should also be clear from a simple model.

Observed symptoms should be overlaid to validate the model, assisted by cause-effect refinements. Behaviours that do not reinforce meeting the project goals or are potential blocks to progress should be identified as causes of underperformance.

Building an Integrated Project Model

The sources of project underperformance should now be clear, but before final conclusions are reached an integrated model will need to be developed. It is only at this stage that the effect of interaction between strategic foundation, process capability and stakeholder dynamics can be investigated. Simple mapping techniques allow links to be made between the three areas. It should be possible to understand all the symptoms that have been described, and a trace established between symptoms and causes.

At this stage it is particularly important to check out any statements that have been provided that contain dysfunction symptoms. (These are the statements that usually start with 'I can't understand why...') It is at this stage that the existing project dynamics can be compared with the project mental model(s) to provide a powerful insight into the causes of the dysfunction.

We have identified 69 common causes of underperformance, each of which has figured to some degree in the majority of projects we have studied. These forms the starting point for modelling factors which contribute to an organisation's ability to complete projects successfully. This then assists in predicting the effects of changes when improvement is required.

Design Remedies

Having modelled the key dynamics of the project, they can be summarised and evaluated in terms of their importance. Predictions should be made about how the project capability would be improved by modelling required changes and testing the outcomes against the revised dynamics.

It is important for the project team that they become part of the solution and their active participation is an integral part of this phase. By reviewing the way in which the whole project works, it is

possible to identify the dynamics that give the greatest leverage and where small improvements can bring great benefits.

In addition, it is sometimes sufficient for team members to discover for themselves how they affect the performance of the project, for them to modify their own practices and behaviour.

Having selected the candidate areas for improvement a cost/risk/benefit analysis should be completed before the actions are prioritised. The sequence of improvements should be reviewed to ensure that the progressive delivery supports the main aims of the project and can be resourced. Consideration should also be given to the possibility that improvements in one part of the organisation might have adverse effects elsewhere.

Care should be taken not to try and make revolutionary jumps in capability – the process is intended to be evolutionary, maintaining team stability, confidence and ability to learn. Particular attention should be paid to how the team has learned previous lessons and any necessary coaching, training or mentoring provided.

Before embarking on the delivery programme it is important that executives and senior management understand the intentions and provide their full support.

Deliver and Test

The 'deliver' phase requires considerable skill and effort on the part of the project team because the pressure of day to day project work will quickly return people to old habits if not appropriately reinforced.

The delivery of improvements should be supported by the appropriate policy modifications, changes to structure and processes, and soft skills enhancements. In this respect, workshops based on 'live' issues provide efficient training and experience. Facilitated reviews also help to reinforce new ways of thinking. A little coaching or mentoring at the right time is not only efficient but also effective.

As the project progresses it should be possible to confirm the benefits, learning from the experience to bring sustainable improvements.

At this point the last word should go to T. S. Eliot:

“We must not cease from exploration. And the end of all our exploring will be to arrive at where we began and to know the place for the first time.”