

Maturity, Excellence and Other Silver Bullets

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Abstract

In recent years, project management has built up a reputation for effective delivery of business results. Its value as an effective tool has grown over the past 10 to 20 years and it is seen currently as both a critical skill for individuals and key organizational process. As its importance has grown, so too has the need for businesses to ensure their competitive edge. This need has caused many organisations to examine their project management methods. This paper examines some of the methods available to organisations to evaluate the effectiveness of organizational project management and notes some of the issues associated with the different approaches.

Key words: *Organizational Competence, Maturity, Project Excellence, Performance Model*

1. Introduction

Many organisations now recognise project management as key to their business operations (see for example Beer et al, 1990; Packendorff, 1995; Hodgson, 2002 or Crawford, 2005). As Morris et al. (2006) show, a wide range of industry sectors now make use of projects and see the effective delivery of projects as a key driver in their organisational performance. This rise of 'projectification' has encouraged practitioners and researchers to investigate all aspects of the knowledge domain we call project management and considerable effort has been devoted to understanding the role of the Project manager (Globerson and Zwikael, 2002), the skills (El-Sabaa, 2001) and competences (e.g. Crawford, 2005). Some Firms have gone so far as to adapt their operational structure to allow them to deliver their output to their clients exclusively by project (Hodgson and Cicmil, 2006), thus project management has become an organizational process, as well as an individual skill.

Claims have been made that delivery by projects is likely to become the dominant mode of business in our times (e.g. Wiig, 1997; Davenport and Prusak, 1998 and DeFillippi, 2001) if it is not already accepted as such. Frame (1999) sees this as due to competitive pressures. One of the major factors in this pressure is the need for consistent delivery of successful projects and so organisations are now turning their attention from looking at the performance of single projects to how they manage the complete range of their projects. So the emphasis has shifted; performance of individual project managers remains important but project management is becoming seen more as an organizational process.

Traditionally, one of the approaches to consistent delivery has been the application of quality management systems to the transformations that the organisation undertakes. Modern quality management has its origins

in the emergence of modern engineering and mass production when methods to control manufacturing output as the advantages of product accuracy became apparent. The significance of this was recognised in the 19th century: one instance is the example of the Springfield rifle during the American Civil War where accuracy of subcontracted manufacture ensured that the Union was able to maintain critical supplies of weapons from dispersed manufacturing plants. A counter example was the inaccuracy of component manufacture for the Wolseley sheep shearing machines which were sent to Australia for assembly; the parts were so poor that the machines frequently failed. More recently, the application of statistical process control, better manufacturing tolerances and reduction in human errors have contributed to massive improvements in the output of the manufacturing sector. These and other quality techniques are readily applied to the output of projects but it has proved more difficult to bring such measures to bear on service 'processes' such as the management of projects. This difficulty is noted by Tenner and De Toro (1992) who demonstrate that the major differences between manufacturing companies and service industry include the issues of defining ownership (and hence of understanding expectations), problems of quantification of process output and the relatively less well established nature of management compared to the better understood nature of manufacture. In the case of project management, we can add issues related to the less tangible nature of the process and lack of repetitive tasks to measure. Thus we find that the process of project management is notoriously difficult to measure (Cooke-Davies, 2004).

Another aspect of the highly competitive nature of business is that firms can no longer just do what they always have done in the past. To stand still is to move backwards in relation to their competitors. Thus senior management must be concerned with improving their

processes. As Thurlow (1999) explains, ‘great companies compete against themselves. They may be the best but they are never good enough’. How then can senior management have confidence that the key processes of their business are not just operating effectively but also improving? This paper examines competing models used to evaluate project management processes and highlights some of the limitations of these models

2. Assessment and Improvement

2.1 Quality Management Approaches

In the post 2nd World War global economy, the requirement for companies to compete fuelled the quality movement where repeatability of output and conformance to requirements is enshrined in internationally agreed standards (e.g. ISO, 2000). Those companies with ISO 9001 certificated management systems are required to have documented systems that demonstrate compliance with the standard. It is usual for them to have quality manuals that set out procedures and work practices showing how major activities may be carried out. The system is specific to the company and is adapted to the business so that business outputs that conform to requirements are described in terms that allow direct comparison with some norm. In some sectors, there are subsidiary standards (e.g ISO Aero Space series) that set out specific components or additional requirements for the system. At present there are no standards that provide definitive guidance on project management; the nearest is ISO 10006:2003 but this only provides high level, generic guidance.

Compliance with standards is demonstrated by auditing. While auditing is a useful way to demonstrate compliance, it is no guarantee of effective delivery since all that is required is to show that work has been done in accordance with the procedures. Many workers have negative views of audits since the output, in terms of ‘non-compliance’ statements have power connotations. Similarly, the person carrying out the audit is ‘independent’ and so may be considered an outsider who may not have a good contextual understanding of the project. There is the feeling that the auditor is looking for fault, rarely praising innovative approaches or good work. So for many, auditing projects is a negative experience and is not a fruitful way of meeting the other critical aspect of ISO 9001, that of ‘continual improvement’ (ISO, 2000). It is seen as doing the things right as opposed to doing the right things, or better, doing the right things right.

2.2 Benchmarking

In order to meet some of the criticisms of ‘standards’, other approaches to developing quality in companies have been tried. These all depend on the concept of benchmarking. The underlying principle of benchmarking is the process of comparison of one system against another. The comparator can be either an idealised system or another organisation. Idealised systems are usually industry sector

specific, say software development or construction, and are based on ‘best practice’ in that industry. Comparisons with other organisations may be done directly, where teams from the participating organisations observe each other or use case studies.

Benchmarking can be performed in a number of different ways: exploratory, external and competitive. The simplest form, exploratory benchmarking, is usually done as an internal assessment against some form of idealised model. The internal team may operate independently or may perhaps be assisted by a facilitator. External benchmarking is a comparison by an internal team assessing performance against the example of another organisation. The comparator need not be in the same industry sector. Finally, organisations with well established systems sometimes use competitive benchmarking (see Table 1) to establish their reputation for quality. Examples of quality awards and their date of origin are shown in Table 1 overleaf. These awards introduce a different approach since they recognise ‘excellence’: in the case of the Malcolm Baldrige award, it is ‘excellence in quality management’ and the EFQA it is excellence in TQM achievement.

Award Title	Date instituted	Country	Remarks
Deming Prize	1951	Japan	National competition to seek out and commend those organizations making the greatest strides each year in quality, based on 10 groups of factors.
QC Award	1970	Japan	
BQA Award	1984	UK	
MBNQA Award	1987	USA	Malcolm Baldrige National Quality Award, based on a score card of 7 groups of factors, numerically assessed.
EFQA	1992		An excellence model, similar in style to MBNQA in that assessment is grouped numerically on process groups.
Excellence Award	1994	UK	Subsumes BQA Award and links to EFQA.

Table 1: Quality Awards

Benchmarking activities can be based on competitive environments such as those listed in Table 1 but are more normally performed in other situations. Many benchmarking activities are carried out as in-house assessments of the organisation or a function. This has a number of advantages, notably reduced cost, that make it attractive and may satisfy senior management requirements. The actual benchmarking can be undertaken as an award simulation or can assess a component of the business which makes it well suited to examination of project or programme management.

Benchmarking is seen in a more positive light than auditing since most models seek areas of strength as well as areas that require improvement. While an audit looks for evidence based on past experience, benchmarking also uses forward looking prospects and aims to be empowering for those involved. By basing the assessment on the stakeholder’s definition of quality, benchmarking claims to address the twin issues of doing the right things and doing them right.

3. Improvement Models

3.1 Process Maturity

Cooke Davies and Arzymanow (2003) point out that the concept of process maturity emerged from the TQM movement. This approach is exemplified by Capability Maturity Model (CMM) developed in 1986 by the Software Engineering Institute, part of Carnegie Mellon University. This model was partly funded by the US Department of Defence (DoD) to provide an approach to evaluating contractor software development capabilities. The concept evolved from traditional process maturity, where a process matures as it becomes more familiar in use, to 'organizational' maturity where the firm moves through several stages of increasing maturity. CMM has 5 levels of maturity and recognise initial, repeatable, defined, managed and optimized levels. This provides a framework for action since specific plans can be developed to address particular deficiencies and priorities can be assigned.

With its origin in software development, which is usually done by project, it is not surprising that CMM should migrate to project management. There are many CMM based project management improvement models available, ranging from Kerzner's PMMM (Kerzner, 2001) through the IPS model (Ibbs and Kwak, 2002) to the ESI/George Washington University model, all of which make use of PMI's PMBOK®. A recent internal report from APM (2006b) noted more than 20 project and programme organisational maturity models. Several have been produced for consulting houses and others have been designed to support specific project approaches. It is far from clear how many of these models are used in practice.

3.2 Excellence Models

Excellence models make use of the benchmarking approach and invoke a general framework against which the organisation can rate its performance. One of the best known of these models is the European Quality Association's Business Excellence Model (BEM), illustrated in Figure 1 below. Like all benchmarking approaches, the BEM looks at historic performance to provide evidence of achievements as well as plans and detailed process planning to identify areas of strength and areas for improvement. It relies on building a history of activity and thus single assessments are of limited value.

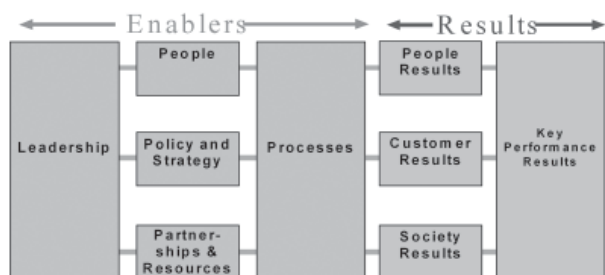


Figure 1: Business excellence model

Excellence models are specifically designed as process improvement tools. They seek to identify interfaces where problems arise. Processes have often developed in a piecemeal fashion, with little thought given to their design from end-to-end and so few people in the organisation understand how the whole process works and so process performance is often inadequately measured. While Functions or departments can optimise their part of the process, this sometimes comes at the expense of the overall process and those working "in the process" often do not understand their full role or the impact of their actions. Assessment using an Excellence Model is claimed to identify such issues and allows a holistic view of improvement action to be established.

Despite these claims, there seem to be fewer Excellence Models available compared to Maturity Models. The APM (2006b) report identified only two related to project management: the IPMA Excellence Award (see <http://www.ipma.ch/awards/projexcellence/Pages/ProjectExcellenceModel>) which was instituted in 1997 and one theoretical approach (Westerveld, 2003).

4. Issues in Use

4.1 Project Excellence Models

As Westerveld (2003) reminds us, project organisations differ significantly from traditional, functionally based organisations. The unique nature of projects and their clearly defined end dates indicate that they are temporary structures (Packendorf, 1995) while traditional companies are enduring, semi permanent structures which tend to achieve efficiency through routine processes. These differences make it difficult to use tools developed for traditional organisations in project environments. So at first sight, maturity models, which were based on project based structures appear to be better suited to improvement of project processes.

The BEM is designed to address what the organisation has achieved (WHAT or the Results area in the model), and the management of the organisation (the HOW or the Enablers). The project management literature concentrates on the HOW aspects, exemplified by the various Bodies of Knowledge (APM 2006a, PMI 2004). Pannenbacker (1995) modifies the original BEM as shown in Figure 2 below.



Figure 2: IPMA's Project Excellence Model

While this differs from Westerveld's model, both relate project success criteria with the Results area of the model

and critical success factors to the Organisational area.

The main issue for Project Excellence models is the problem of evaluating success. While the simple view of success, based on the so called 'iron triangle' of time, cost and quality provides a straightforward set of criteria, there are competing views. The iron triangle approach was challenged *inter alia* by Belassi and Turkel (1996) while Atkinson (1999) notes that this view is inadequate and that a broader range of stakeholder judgements needs to be taken into account. The recent literature on success in projects confirms this view (see for example Cooke - Davies, 2004). For the model, it is important to understand not just how success is to be judged but the criteria that will be used to determine whether the project achieves success.

It must be said, however, that most of the research on project success has focussed on single projects and little has been said on judging success in the organisational context. The other, but related issue, is that it is almost impossible to evaluate project success across organisations. Where companies perform most of their business, it is difficult to determine whether project success is due to the project manager or to the organisational processes involved (Munns and Bjeirmi, 1996). Other factors that must be taken into consideration are whether the results are typical, representing the true output of the processes involved or whether there are other, possibly project specific, factors that distort the outcome.

Perhaps a more significant issue is the purpose of the modelling activity: typically, it will be to identify areas require improvement but the opportunity to improve project processes may not be amenable to improvement activity. Improvement activity usually takes the form of one or more of the following aspects:

- **Effectiveness** – improving the ability of a process to deliver output that meets customer requirements.
- **Efficiency** – reducing the amount of resources consumed or required to operate a process
- **Cycle Time** – reducing the elapsed time required to convert the input into the output
- **Flexibility** – improving the ability of a process to cope with different or fluctuating demands
- **Capacity** – increasing the throughput capacity of a process

It seems unlikely that improvements to cycle time and capacity are relevant to project management.

Finally, there is the question of how well gradual process improvement maps onto project management. Cooke – Davies and Arzymanow (2003) note that process improvement does not map well to the way individuals acquire skills. Citing Dreyfus and Dreyfus (1986), he notes that they identify 5 stages in skill acquisition and that experts and proficient performers, while familiar with rules and good practices, do not select or follow rules. Instead they perform 'smoothly, effortlessly and subconsciously.

Project Excellence models offer the possibility of process improvement but their application to single projects seems unlikely to yield results that will meet the original objective of improving the detailed process.

4.2 Maturity Models

As remarked earlier, maturity models are based on 'best practices'. In the case of PMI's Organisational Project Management Maturity Model (OPM3[®]) the 'best practices' are formulated into on some 600 elements mapped onto capabilities, outcomes and key performance indicators. With all such models, the first consideration is how these factors are identified as 'best practices'. Who is entitled to call any practice better than another? Ackoff (1993) describes an assembly of 'best' elements from famous makes of car and then putting them all together in a single 'best of the best' combination. The result, he claims, would not resemble a motor car, let alone a viable model as the parts would simply not fit. His contention is that practices selected by benchmarking seldom take into account the interactions between the parts. Most of the Maturity Models identified by APM (2006b) are based, like OPM3[®] on the knowledge and process categories of their PMBoK Guide (PMI, 2004). This volume is widely recognised as a basis for certification but there is some challenge as to the validity of the processes (see for example Morris et al., 2006, Shepherd and Johns, 2006) which some (see *inter alia* Hodgson and Cicmil, 2006) see as incomplete and unrepresentative of the complexity of project management.

Setting aside challenges to the validity of the underlying process base, there are also practical issues to consider. In addition to the issues raised by Ackoff, Hoffherr (1993) notes that the 'costs of adapting an existing [benchmarking] solution to a seemingly similar problem can cost two or three times as much as starting from scratch. Because every problem is unique, every problem deserves a unique solution'. This seems to be more in tune with the nature of projects as temporary organisations tackling unique tasks.

5. Conclusions

Project management has become recognised as a business critical activity for many organisations. Senior management is interested in methods that allow their business critical activities to improve over time, or to mature. This desire has led to an increasing interest in measuring this 'maturity'. Models based on CMM and on excellence have emerged in recent years to assist in assessing the state of organizational project management but the competing approaches have drawbacks. The theoretical basis for the more well known maturity models has been challenged and there are cost implications in implementing such regimes.

Excellence models are seen as less confrontational than auditing for conformance to standards, most of which are not assessable. These models are specifically designed for use in improving processes and so seem more useful than simply measuring maturity. However, the process of improvement requires multiple assessments over time to show commitment, progress and to reinforce success.

Both approaches have strengths but there are weaknesses, too. Hence care is needed in selecting an

approach and in applying it if such use is not to be seen as simply another management fad.

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