# Advances in Project Management[1]

# The Best Practices of Managing Quality in Projects

*By Ron Basu, PhD*

## WHY PROJECT QUALITY?

We all agree and accept that as an end user of a product or service we would like it 'as it says in the tin', when we want it and at good value for money. Being in a competitive world of consumer choice we also expect it to last. This is the domain of operations, services and supply chain management. And we define it as 'quality is the consistent conformance to customer experience' (Basu, 2011). However in the field of project management the importance of quality is not so clear cut. Project managers appear to accept the 'iron triangle of cost, time and quality' (Atkinson, 1999) but focus more on 'on time and budget' delivery as the success criteria. Quality in projects is mostly relegated to a 'lip service' and to several documents with 'ticking boxes'. As a consequence we find many examples of projects ( such as Wembley Stadium, Millenium Dome, West Coast Rail Upgrade) which were delivered on time and within budget but failed to meet the expectations of end users. Therefore we need to ask 'how diligent are we in terms of project processes to deliver project objectives'? This is the minimum requirement of 'what it says in the tin'. Furthermore we should also investigate 'how good is our project management … as a vehicle for delivering the longer term outcomes and benefits as required by the sponsors and end users'.

## FILL THE GAP OF THE 'IRON TRIANGLE'

There appears to be a knowledge gap in the environment of project management related to the benefits achieved by quality management in comparison to the manufacturing and service operations. The publication of the book (Basu, 2012) is an attempt that sets out to investigate the impact of all aspects of quality in project management. The author's investigation focuses initially on defining the dimensions of quality in project management and identifying sources of measurement for project excellence. He expands to discuss which tools can be used in the quest for project excellence; and the factors and processes critical to project success and maturity. The text also explores how the successes of supply chain management, Lean Thinking and Six Sigma may be gainfully deployed. In this book, an extensive review of the publications written about managing quality in projects and bodies of knowledge (e.g. PMBOK, PRINCE2) was underpinned by field research and two contemporary case studies (viz. Heathrow Terminal 5 and High Speed 1). A structured implementation of project quality, by those directly involved in project delivery and the project stakeholders for achieving a sustainable outcome of the project is also a valuable contribution of this book.

[1] *The Advances in Project Management series includes articles by authors of program and project management books published by Gower in the UK. The articles are coordinated by series editor* ***Prof Darren Dalcher****, who is also the editor of the Gower Advances in Project Management series of books on new and emerging concepts in PM. . For more on Gower project management, visit http://www.gowerpublishing.com/default.aspx?page=2063.*

## DEFINITION OF PROJECT QUALITY

Basu (2011) proposes a three-dimensional model of quality is shown in diagrammatic form in Figure 1.

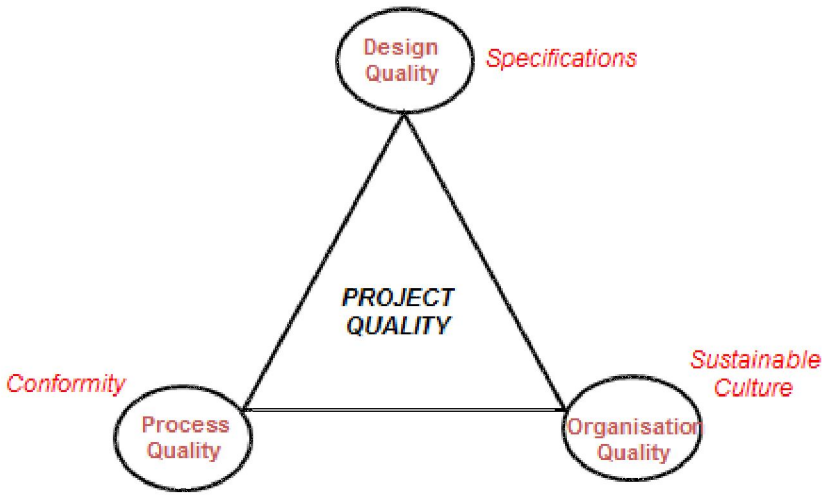


Figure 1: Three dimensions of quality

The product quality should contain defined attributes of both numeric specifications and perceived dimensions. The process quality should also contain some defined criteria of acceptable service level so that the conformity of the output can be validated against these criteria. Perhaps the most important determinant of how we perceive sustainable quality is the functional and holistic role we fulfill within the organisation. It is only when an organisation begins to change its approach to a holistic culture emphasising a transparent measurement and communications with key holders that the 'organisation quality' germinates.

## IMPLEMENTING QUALITY IN PROJECTS

In the book *Managing Quality in Projects* we provide a proven pathway, primarily based on the case studies of T5 and HS1, for implementing a quality management programme in major projects from the start of the initiative to the closure of the project embedding of the change to a sustainable organisation wide culture. The framework of a quality management programme is shown in Figure 2 and described below. Note the emphasis on each step of the programme could vary depending on the type, size and complexity of the project.

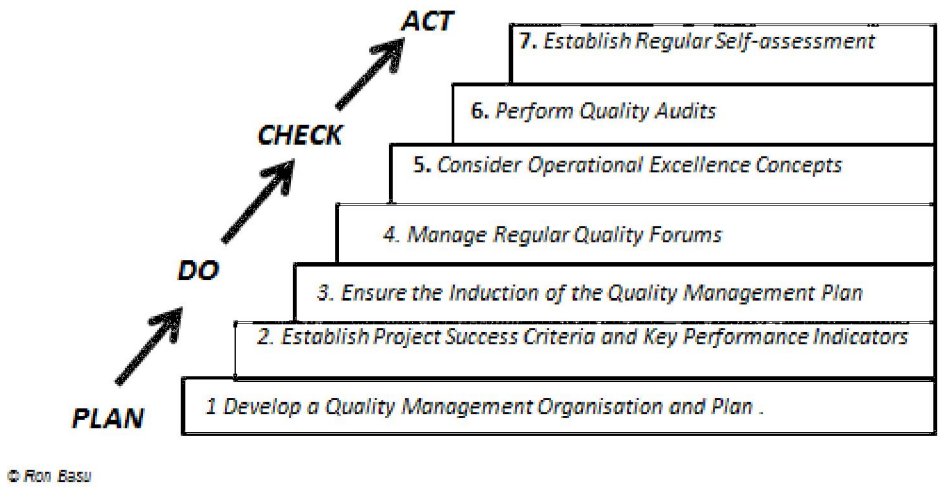


Figure 2. Framework of a Project Quality Strategy implementation

## Step1: Develop a Quality Management Organisation and Plan

A key task for the project board is to appoint an independent Quality Manager reporting to top management as early as possible. Our experience is that it is essential to allocate a quality budget (over 0.5% of project spends) and convince at least a third of the Board with the scope and benefits of project quality, before launching the quality management plan. The objectives of a quality management plan should aim to provide assurance that assets are safe , reliable and meet quality requirements (product quality) and also to work efficiently and effectively so that products are delivered on time and budget (process quality). An implicit objective is also ensure that the requirements are understood and accepted by key stakeholders (organisation quality).

## Step 2: Establish Project Success Criteria and Key Performance Indicators

The success criteria should of the project should be agreed with the Sponsor and key stakeholders at the start of the project and further grouped into the 'four perspectives' of the Balanced Scorecard (Kaplan and Norton, 1996) as shown below:

Financial Perspectives

- Commercial success
- Meets budget

Customer Perspectives

- Meets user requirements
- Achieves purpose

Internal Processes Perspective

- Meets time scale
- Meets quality

Learning and Growth Perspective

- Happy users
- Happy team

## Step 3: Ensure the Induction of the Quality Management Plan

Having developed the Quality Management Plan and Key Performance Indicators the next stage is ensure that key stake holders understand and agree with the requirements in the plan and the metrics. The induction programme could be conducted in two levels. First a half day workshop to introduce the plan and indicators to the Project Board and the senior members of the first tier suppliers. This should be followed by a number of one day workshops for team members from the Client organization and major suppliers. It expected the details of the both the quality plan and Key Performance Indicators, with omissions and inclusions, would be refined during the induction sessions.

## Step 4: Manage Regular Quality Forums

Induction workshops are one-off at the early stage of the project while Quality Forums should be conducted at regular intervals, usually every month, during the total life cycle of the project. Quality Forums are organized and led by the Quality Managers and participants include Project Manager, Team Leaders and Quality Leaders, from both the Client and Major Suppliers.

A Quality Forum not only ensures communications and agreement of key stakeholders of quality issues from the same page but also helps to inculcate a quality culture across the project organization.

## Step 5: Consider Operational Excellence Concepts

There are three main concepts of operations excellence which are successfully being applied in managing project quality and project excellence and these are:

- Excellence Models
- Supply Chain Management
- TQM, Lean and Six Sigma

Excellence Models form a part of regular self assessment and are covered in Step 7. Supply Chain Management (SCM) can reside as function on its own but it is important to establish a close interface between SCM and Quality Management especially related to the procurement of goods and services.

TQM, Lean and Six Sigma are inter-related concepts and inextricably linked to the management of quality in projects. These concepts are now merged into Lean Sigma or FIT SIGMA initiatives and the application of Lean Sigma or FIT SIGMA (Basu. 2011) in projects is at an early stage.

## Step 6: Perform Quality Audits

A quality audit process ensures the conformance and compliance of standards established by the Quality Management Plan and Key Performance Indicators. An additional aim is to ensure Environment, Health and Safety requirements.

Each type of audit has well defined practices supported by detailed process charts in three key stages, such as Programming and Planning, Execution, Follow-up and Close Out. The audit process is supported by a number of well designed documents and forms.

## Step 7: Establish Regular Self-assessment

The regular review of Key Performance Indicators can only identify the measurable quality standards. There are many intangible parameters of quality and enablers of project success that cannot be easily detected by Key Performance Indicators or Audit Reports. These include leadership, project strategy, partnerships with suppliers, motivation of team members and stakeholders engagement to name a few. Therefore it is important to establish a holistic self-assessment check list and regular review process to pinpoint gaps and training requirements related to intangible factors. The checklist can be derived from EFQM or even P3M3. However it is strongly recommended that the check list should be adapted to the specific requirements of the project. The APEX (Assessing Project Excellence) model (see Figure 3) could be a starting point to establish the checklist for self-assessment. The review should be carried out every three or four months.

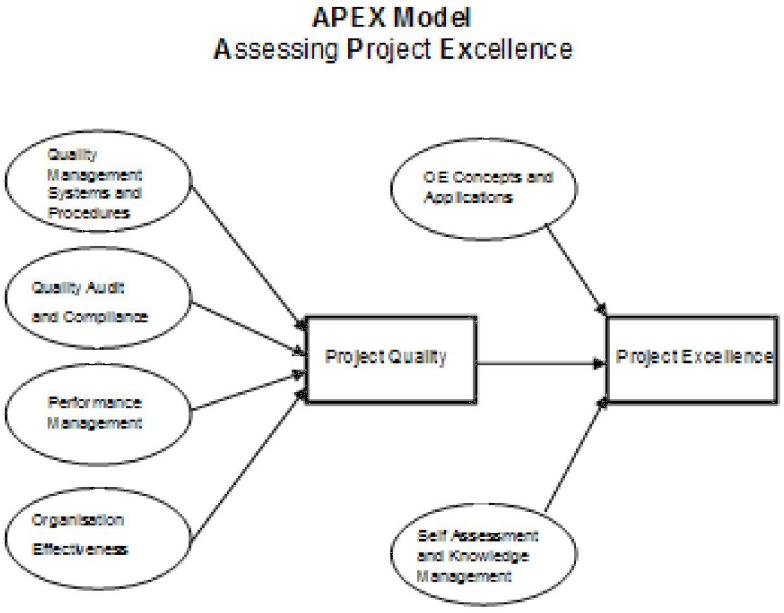


Figure 3: The APEX model

The outcome of the self-assessment is to identify gaps mainly in intangible enablers and also assess skills and training requirements to address these gaps. A well designed and administered self-assessment process acts as a powerful tool towards achieving sustainable outcomes leading to project excellence.

## WAY FORWARD

It is hoped that the ideas, processes, recommendations and implementation plan presented in this book should assist the Project Leaders and Quality Managers to manage quality beyond the generic guidelines available in PMBOK (2008), PRINCE2 (2009) and ISO 10005 (2005). The field research and case studies are supporting data to validate the contents of this book. An outline of an implementation plan is also provided to assist the practitioners beyond the guidelines in bodies of knowledge. However it a part of a continuous learning process aiming towards further improvement and it is recognized that 'the devil is in the detail'.

## REFERENCES

Atkinson, R. (1999), 'Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria', *International Journal of Project Management,* Vol. 17, No. 6, pp 337-342

Basu, R. (2011), 'FIT SIGMA: A Lean Approach to Building Sustainable Quality Beyond Six Sigma', J. Wiley & Sons, Chichester.

Basu, R (2012), '*Managing Quality in Projects'*, Gower Publishing Limited, Farnham.

International Standard Organisation. (2005), ISO 10005: *Quality management systems – Guidelines for quality management plans*, Geneva.

Kaplan, R. S. and Norton, D.P. (1996). '*Balanced Scorecard'*, Harvard Business School Press, Boston.

PRINCE2 (2009), Office of Government Commerce, London

Project Management Institute (2008) *A guide to the project management body of knowledge* (PMBOK Guide) 3rd Edition. Newtown Square

*NOTE: All the issues and references in this paper are addressed in the book 'Managing Quality in Projects' by Dr Ron Basu published by Gower as part of the 'Advances on Project Management' series edited by Professor Darren Dalcher. For more information about this book please visit http://www.gowerpublishing.com*

## About the Author

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**Dr Ron Basu** is Director of Performance Excellence Limited and a Visiting Fellow at Henley Business School, England . He is also a Visiting Professor at SKEMA Business School, France. He specialises in Operational Excellence and Supply Chain Management and has research interests in Performance Management and Project Management. Previously he held senior management roles in blue-chip companies like GSK, GlaxoWellcome and Unilever and led global initiatives and projects in Six Sigma, ERP/MRPII, Supply Chain Re-engineering and Total Productive Maintenance. Prior to this he worked as Management Consultant with A.T. Kearney.

He is the co-author of '*Total Manufacturing Solutions'* , '*Quality Beyond Six Sigma'*, '*Total Operations Solutions'* and '*Total Supply Chain Management'* and the author of books with titles *Measuring e-Business Performance* , '*Implementing Quality'* , '*Implementing Six Sigma and Lean'* , '*FIT SIGMA'* , '*Managing Project Supply Chains'* and '*Managing Project Quality'* . He has authored a number of papers in the operational excellence and project management fields. He is a regular presenter of papers in global seminars on Project Management, Six Sigma, Manufacturing, and Supply Chain topics.

After graduating in Manufacturing Engineering from UMIST, Manchester, Ron obtained an MSc in Operational Research from Strathclyde University, Glasgow. He has also completed a PhD at Reading University. He is a Fellow of the Institution of Mechanical Engineers, the Institute of Business Consultancy, the Association for Project Management, and the Chartered Quality Institute. He is also the winner of APM Project Management Award.

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