

# Implementing an Organisation Wide Testing Approach

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**Abstract.** Testers want to do better testing and Test Improvement Programs help us do that, but only up to a point. Eventually, and sometimes sooner rather than later, you reach the point where to continue to improve the testing process you are going to have to change some practices, process and behaviors outside the testing team. You need the business to set realistic timeframes. Project managers to create realistic plans. The development process to provide adequate and timely; requirements, design and build information. Least of all, you need better quality code, and when it isn't you need it fixed in the order that your testing demands. And to be successful, this level of organisational change can't be imposed or mandated. You are going to have to work with the development team to successfully bring about this change.

**Keywords:** Test Improvement; Testing Change; Kubler-Ross

## 1 Introduction

Over the last seven years I have been involved in several Test Improvement Programs. They have varied in size and nature but all have had the same aims. To improve testing, increase efficiency and effectiveness, and better support the overall development lifecycle.

There is no doubt that Testers want to do better testing. We all want to do a better job. If not for personal pride and satisfaction then because we want to improve, in order to get a better job and ultimately earn more money.

And Test Improvement Programs will help us do that. But only up to a point. Eventually, and sometimes sooner rather than later, you reach the point where to continue to improve the testing process you are going to have to change some practices, process and behaviors outside the testing team.

You need the business to set realistic timeframes. Project managers to create realistic plans. The development process to provide adequate and timely; requirements, design and build information. Least of all you need better quality code, and when it isn't good quality you at least need it fixed in the order that your testing demands. And so on. . . .

You find yourself in the situation where you need to improve the other aspects of the development lifecycle to gain further benefits from your Test Improvement Program.

And to be successful, this level of organisational change can't be imposed or mandated. You are going to have to work with the other members of the development team to successfully bring about this change.

As the old joke goes "How many Change Managers does it take to change a light bulb? Just one, but the light bulb has got to want to change!"

## **2 Implementing and Organisation Wide Testing Approach**

### **2.1 Where to Start**

You probably know that your testing process isn't quite working properly. Testing seems to be taking too long. There are too many production problems. Testing seems hard, with constraints on environments, resources and inputs e.g. requirements and design information. It is difficult to explain to stakeholders how testing is progressing. Vendors keep on calling saying "Buy our tools, buy our services, and all will be well." Conference presentations sound wonderful, but just exactly how do we do it?

One first step is to initiate a review of your testing activities to get a better view. The review isn't limited to just the testing area, but also includes upstream and downstream of testing activities. Take a look across the development lifecycle and include your; stakeholders, sponsors, customers and suppliers.

### **2.2 The Review**

Whilst carrying out the review, ensure that you are impartial, objective and analytical. Get a representative view; you don't need to see everyone in the department or company. It helps if you can get an independent view from an external expert. Look inwards as well as outwards with the review and don't take anything as a 'given', i.e. assuming that your internal testing processes work fine, and that the problems lie with everyone else. And remember that people are busy, so be accommodating when you talk to them.

When you come to present your findings, test them out on colleagues first before publication, in an aim of getting impartial feedback. Present your findings without emotion. And when you present your findings, ensure that before you proceed on any improvement activities, you get the budget and resources required to carry out the approved actions.

### 2.3 Approach to Change

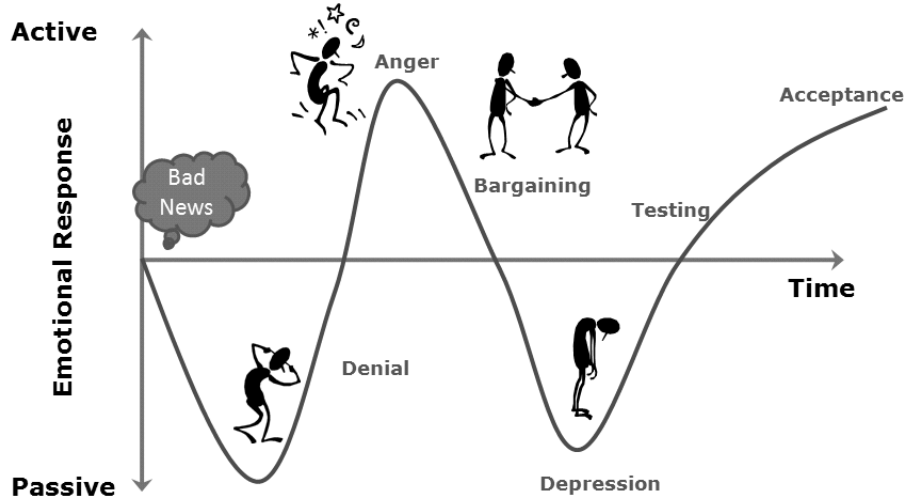


Fig. 1. The Kübler-Ross model

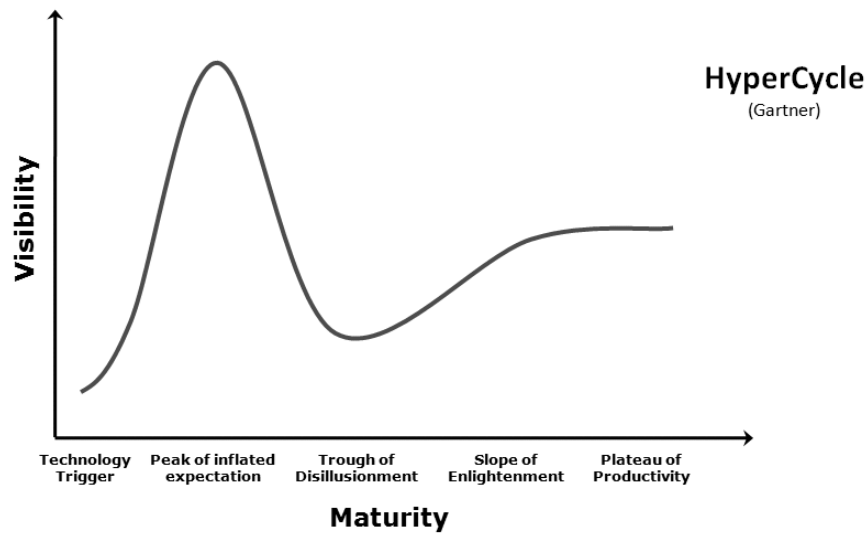
Elizabeth Kübler-Ross proposed the Five Stages of Grief model in her 1969 book *On Death and Dying*. The model was constructed from observing terminally ill patients and their response to their situation. It has been found that the model also applies when people undergo significant change in their personal lives. The model is particularly useful to identify the stages that people will go through when impacted by organizational change.

The stages of the model are:

1. Denial – “It can’t be happening to me.”
2. Anger – “Why me. It’s not fair.”
3. Bargaining – “Just let me live to see my children graduate.”
4. Depression – “I’m so sad, why bother with anything?”
5. Acceptance – “It is going to be o.k.”

The model is useful because it tells us how people are going to react when we implement organizational change, and we can then prepare for and mitigate these responses. People will still have them, but we can shorten their duration and minimize the strength of the response by preparing them.

The other key point about the model is that people can stick in stage, or they can cycle back to a previous stage in the model.



**Fig. 2.** The Gartner Hype Cycle

The Gartner Hype Cycle model is a five step model to describe the expectation of new technology introduction. This model applies equally well to process improvement. The model is useful to identify the stakeholder response to the process change that you are undertaking.

One first step is to initiate a review of your testing activities to get a better view. The review isn't limited to just the testing area, but also includes upstream and downstream of testing activities. Take a look across the development lifecycle and include your; stakeholders, sponsors, customers and suppliers.

The steps in the model are:

1. Technology trigger – The start or launch of the Test Improvement effort creating significant interest
2. Peak of inflated expectations – A frenzy of publicity generates over inflated expectations.
3. Trough of disillusionment – As the delivery of the test improvement effort fails to meet the expectations.
4. Slope of enlightenment – Although management focus and attention has shifted away from the test improvement effort, teams begin to implement and deliver benefit.
5. Plateau of productivity – The test improvement effort becomes established and embedded.

## 2.4 A model for change

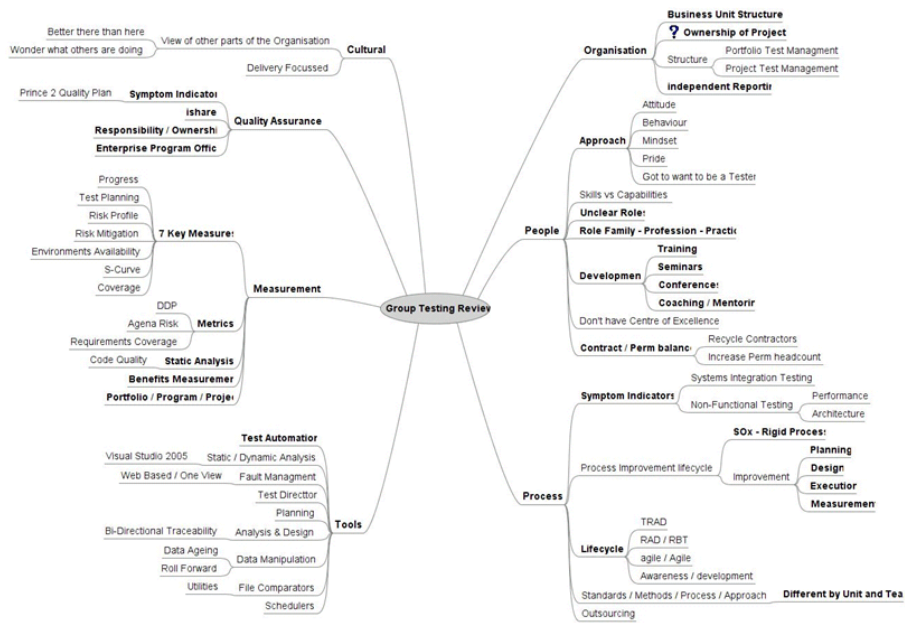


Fig. 3. Example Change Model Mind-Map

A six axis model for change is proposed:

1. Organisation
  - The development of independent reporting lines.
  - Breaking testing out of the delivery line.
  - Understanding the matrix-managed multi-dimensional landscape of; Delivery, portfolio and business.
2. People
  - Change and transform the people.
  - Empower the team, and give them ownership.
  - Increase awareness of lifecycles, models and approaches.
  - Develop the team through; training, seminars and conferences.
  - Reward the people with; equality with development, grades and structures, and recognition.
3. Process
  - Fix the broken stuff. Using the output from the review apply quick fixes to broken process.
  - Identify the key processes; testing strategy, testing lifecycle, reviews and inspections, alignment with development, risk based testing, alternative lifecycles, and regression testing

#### 4. Tools

Target tools that will give biggest benefit first.

First look at fault management, then test planning, static and dynamic analysis, data creation and manipulation, comparators, load, schedulers, and when the test process is reliable, test execution.

Note that the benefits from common group working will be as large if not larger than those realized by test execution.

#### 5. Measurement

Apply measures and metrics for; progress, planning, risk-profile & mitigation, S-curve, environment availability and coverage.

Use animated capability measures where applicable.

Develop measures for quality, coverage and complexity.

Look at benefits management.

And integrate the measurement of testing within the overall organizational metrics effort.

#### 6. Quality Assurance

Embed across the lifecycle the principle that quality assurance is the responsibility of all.

Avoid implementing quality police.

Quality assurance is about ensuring that the processes are working correctly, and not just checking (quality control) that the products produced by those processes are correct.

Ensure that you meet regulatory, audit and compliance obligations.

Support your quality assurance activities with a Quality Assurance Strategy.

### **2.5 Selling the Change**

The first point to make in selling organisational change of this nature is to communicate the change to all, and keep on communicating. Feeding back the outcome to all involved in the review, and regular progress briefings to; sponsors, stakeholders, customers and suppliers.

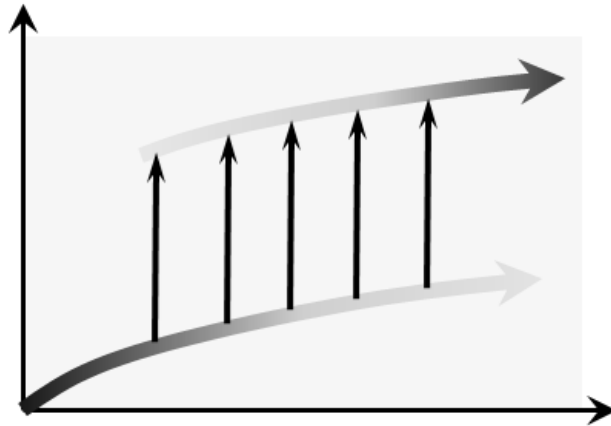
Ensure that the benefits from the test improvements that you are making are aligned with your organizations goals.

Gain buy in to external change, i.e. outside of test, and make them want it, and then they will do it for you.

Keep people informed by telling them what is going to happen, what is happening, and what has happened.

Publicise your successes, and also be honest about your failures, and what you have learnt from them.

## 2.6 Implementing the Change



**Fig. 4.** Thin Threads Change Model

There are a number of models for implementing change. The one I currently favor is the Thin Threads model shown in Fig. 4. (anon.).

The model advocates changing discrete processes to work at the new level whilst still being compatible with other un-changed processes. This minimizes the level of change at any one time, and ensures integration with the existing process set, minimizing the chance of failure.

It is important to note that this level of change cannot be carried out in isolation, and needs to be integrated with change across the organization.

It is also important to understand the priorities between the change activities across the organization, so as to gain the maximum organisational benefit from implementing change.

## 2.7 Resistance to Change

You will experience resistance to change in a number of ways:

- Alternative change initiatives.
- You will receive full support, with anything but; resource, budget and commitment.
- The 'Yes, but it doesn't apply to me' syndrome.
- Exemptions, such as the Important Project Syndrome.
- A thousand reasons why not to implement the change, each one of which has to be defended against. Yet no-one has to justify the continuation of the existing inefficient processes!
- Active spinning (politics) against your work.
- Management failure to support the message and permission given not to take part.

- The mindset that “We have failed before so why will this time be different?”

## **2.8 Summary**

The following points summaries this paper and the presentation “Implementing and Organisation Wide Testing Approach”:

1. Undertake a review and feedback to all.
2. Develop a model for the way forward.
3. Gain real buy-in before proceeding.
4. Ensure that you have sponsorship.
5. You can’t undertake this level of change in isolation.
6. You are dependent upon change outside your control.
7. Influencing, stakeholder management and communication are key to success.
8. People will resist change for many reasons, predict this and help them be successful.

“That to be successful with any form of organisational of process change, whether that be testing or not, first you have to get the organization to want to make that change.” – Graham Thomas

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