



Caring for Capital Through Change



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Caring for Capital through Change

Including but a lot more than just project management

Preface:

I often hear “People are our most important asset”. I also observe that groups of people adopt repeated patterns of behaviour; procedures. Our people and their procedures are one form of capital alongside the integrated systems, buildings and money that together deliver benefits.

Increasingly our world is one of constant pressures from changes arising elsewhere. Change offers opportunity. It also brings threat. Opportunity if we adapt and just threat if we attempt to resist its relentless onslaught.

This is a book offering insight into how to lead and manage the people of an organisation through the journey of change that is focussed on delivering benefits. Benefits are a desired outcome from the ‘use’ of assets. The end we work backwards from.

The text that follows is about how to engage people in envisaging destinations and working together to deliver them. I’d call the topic ‘project management(PM)’ but that is such a small subset. Worse, as commonly understood (because of descriptions given elsewhere) PM is a subset with insufficient tools and structures for caring for our most important asset.

Emergence

Increasingly the consequences of wider, faster communications allow the effects of change to ripple further, with more touch points and so with more disruption to what was. Disruption that arrives faster and whose results are decreasingly ‘pre-dictable’. Common descriptions of ‘how to do project management’, whether ‘agile’ or not all fall way short of all we need.

This text describes how to formulate vision of a future end-point* out of the unnegotiable pressures on our current state of ‘business as usual’ and the endless opportunity that change presents.

*“end -point” is actually better perceived as ‘vision of a future next-start-point’.

The 40 short chapters here-in explain: ► how to formulate vision of end point, ► how to back-cast vision to Tipping-Point targets of behaviour and infrastructure for unstoppably successful flow of benefits and how to ► connect this to traditional tools such as Decomposition whether of epics to stories, whether described in the PMBoK-G 6th Ed 5.4.2.2 & 6.2.2.2 and PRINCE2-2017 pg107 or with trendier names like Backlog. How to ► cope with change within the governance wrappers of portfolio, programs or road-maps, projects, phases, stages, sprints, releases and work-packages. How to succeed through the efforts of people’s day-to-day motivated, engaged team work.

(All organisations whether public bodies, not for profit or business have behaviours that we can describe as ‘business like’ and ‘professional’ in order to provide leadership, governance, management and control; you don’t have to be a profit oriented business to be business like, nor work in a ‘profession’ to adopt professional standards.)

Preface:

Reading Order

The contents is all hyperlinked (here is one to the [Table of Contents](#)) but the text is also constructed so that when read serially all concepts are explain before being used in the explanation of something else and if commonly abbreviated then I have spelt abbreviations out in full on first use. If you hop about with the links you will encounter concepts whose explanation will require a detour to cover.

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Preface:

[[Dear Reader, Hello ☺.

The world of PM, whether 'agile' or not isn't imho* that well served with insight that really reflects practitioner needs.

*In my humble opinion

Here are 80k words that are my attempt to explore the practices, tools, mind-sets etc that I've found useful. The contents is not just traditional wisdom rewritten – There is traditional wisdom in here - There are many great ideas in 'traditional* project management' which any new thought must leverage rather than discredit - but the 'old ways' are not, in total equal to the total challenges of organisations in today's change rich world. The nature of change has changed.

*Traditional includes agile, adaptive incremental and predictive approaches. As I wrote for the American Society for the Advancement of Project Management agile tunes the engine. It does not help to improve selecting a destination and then being able to navigate and steer! Agile improves a part of the whole, but not the weakest nor the most critical part.

In this book I've been as inclusive as I can of ideas from all sources that help an organisation trying to deliver projects to cope with the sociological, the psychological, the value for money, the portfolio, the agile and every other perspective of change that matters.

I'd love to hear your suggestions for improvements. I have a rolling program of review and edit. Also welcome and perhaps of mutual benefit are your attributable 'dust-jacket' quotes of endorsement.

I hope you find the insight in here useful. By which I mean you can use them. That means 'take the ideas off the page and into use'. My aim is to give foundation and concept but also steps within procedure. If you'd like to talk further about getting help doing that then drop me [an eMail](#). If you'd like training for your organisation I have materials. The philosophy here-in is that 'project management' is a necessary component but ultimately inappropriate label.

'Project' is a limited part of thriving or surviving in the face of change. This book is about coping with change and it's about caring for preservation and use of capital. The most important form of capital is the shared culture of our people's interactions. There habits and skills and relationships that drive interactions that create benefits.

If you have an organisational need to be better at coping with change then I have a capability development framework and more at <http://www.logicalmodel.net/competencytool/> and a capability development program that spans the boardroom to the boiler room™ with differing focii for each perspective of those who need the skills to be transformational leaders.

In total it is a set of new insights that I'd welcome the chance to chat through and so share in more ways than these words allow.

Best regards Simon - c4c@logicalmodel.net -]]

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Introduction

19th Century Scottish philosopher Thomas Carlyle said, “Nothing more terrible than activity without insight”, Stephen Covey’s rephrasing is “Begin with the end in mind” and this book’s themes includes ‘the better the vision the easier the journey’.

A key message: envisage the beneficial endpoint then understand, backwards to today’s reality the enablers that make that envisioned end an inevitable reality.

A key tool is the simple template “As <leadership role> I will see <people’s behaviours> in <business content> on <date>*”.

The expression of a dated inspection test says explicitly “...because I have the authority and will to make it happen (or none of us should start down the path)” and multiple implicit messages. Such as “...and I’ll treat escalations as instructions to take action because they are critical to ME achieving MY desired future beneficial state”, and “now you too have a word picture at the start of where we will be at the end you can mourn your losses early, come to terms with and shape the journey to that future”

*There is more to add – Like the tests to confirm commencement of benefits that start to flow when shared behaviours are in place. Shared behaviours are also known as ‘Culture’. Druker said “Culture eats strategy for breakfast”. That simple template plus a lot of insight facilitates the formulation of adjusted cultures.

There are normally two strands to flowing future benefits – a people’s future behaviours one (always) and an infrastructure one (often) – that when combined deliver capability. Capability grows with practice into habit. Shared habits are culture.

A phrase of the moment is VUCA – Volatile Uncertain Complex Ambiguous. It says we are buffeted by unnegotiable changes so must adapt.

That simple template helps adaptations that mean we can thrive not just survive.

VUCA says you cannot plan in advance (because complex tells us what tomorrow holds is ‘emergent’ – unknowable in advance) but with insight such as that commonly called ‘agile’ we can be in control (by reactive means).

Agile’s weakness is that it’s a development approach for use in tactical actions. Vital but insufficient. We need a means of equal usefulness for strategy’s endpoint; expression of vision with concrete exit tests firmly linked to our definitions of value . The cascade of end-point is then vision’s ‘decomposition to visceral tipping point tests linked to the ‘right’ behaviours and eventually linked to development milestones firmly linked to technical specification of ‘correct’. For some I can

A key message: envisage the beneficial endpoint then understand, backwards to today’s reality the enablers that make that envisioned end an inevitable reality.

**A key tool is the simple template
“As <leadership role> I will see
<people’s behaviours> in <business content> on <date>*”.**

summarise as a clear Definition of Ready that encapsulates a clear Definition of Done (and immovable delivery date!)

Aside or illustration #1: Wasted Training Budgets

As part of my normal activities I run training courses in project management. Sometimes I find the process is a waste of my attendee's sponsor's money.

Not always but often I start a course by exploring why people are attending.

Some are (in trainer jargon) "prisoners; sent without choice and waiting for the door to be re-opened so they can escape". Not all are prisoners, but even amongst those attending as eager participants few have had a pre-event conversation with their manager about the target aimed at or the opportunities that need to be created to experiment with taking action on return to work. They have given no thought to goal nor the post training journey's steps to benefits.

They are typical project managers. Foresight ends at the end date. Its an end, not a beginning.

What Is Missing.

To be more successful they would have an end-state vision with an exit-test defined. The exit test would be on the far side of their business case's description of the justifying benefit-flows.

Those 'benefits have been received' tests would in turn be linked (backcast) to envisaged enabling events linked to actions taken tests. Their journey would be marked by leading indicators that usefully frame the adaptive actions that will be needed to have delivered value. Right to left thinking.

This book is about the principles, philosophy and steps that result in benefits delivered.

About how to viscerally describe an end state. About how to backcast end-state exit tests through key enablers to actions that are then delegated, led, managed, completed. In total part of the structured suit of behaviours useful for people and organisations that thrive in a change rich world.

The most successful of us who are buffeted by change have defined our Change Exit Tests and Benefit-Flow indicators [\[\[See Chapter 8 MV&V\]\]](#). We have identified the key enabling events [\[\[See Chapter 13\]\]](#) that are pre-requisite to goals that have been socialised to allow early reactions of shock, anger and rejection to dissolve into acceptance and helping [\[\[See Chapter 10 Ch 10\]\]](#).

Those who have the easiest path to benefits [\[\[See Chapter 13 Ch 13\]\]](#) and [\[\[See Chapter 14 Ch 14\]\]](#) are the few who have imagined and described the benefits they are targeting [\[\[See Chapter 7 Ch 07\]\]](#). They know how they will know when they have got the benefit or are veering off target [\[\[See Chapter 8\]\]](#). They pre-imagine and mentally rehearse the minimum sequenced actions that will deliver value. In a context beyond one person the need is to rehearse a shared mental model.

Project management is about building shared mental models in the heads of interacting groups of folk.

The last paragraph of under 100 words is the whole of this book in microcosm; know how to recognise the end-point – the change's exit tests. Know how to express the value of these outcomes.

From here it is easy to plan backwards to the minimum pre-requisites that will make success inevitable. When the steps are known treat them all as possible in parallel until physics and resource constraints proves you wrong.

Neither a book nor a training course can establish 30 years of experience but both can make the knowledge explicit. With conscious thought and practice the explicit can be absorbed, experience grown and the skills then become unconscious; implicit. Perhaps this is Shu-Ha-Ri*. Thoughtful reflection improves results and reduces timeframes. This applies to learning, to running projects and to changing organisation's patterns of habit (culture?).

*Shu-Ha-Ri in brief is "follow the rules given to you until you understand enough to not want to ignore them. Then adapt them for as long as you need before they are so engrained that you can create your own rule-set (to pass on?)"

Challenge Yourself To Take Action As A Result Of Reading

Whether you have travelled the short serially path through this book to here or taken a more random path by dipping in to what is to come it will be helpful to you now to pause to speculate on; "What result do I want? (Is that down to the author or the reader?)" and "How will I recognise it?" eg "I've finished a satisfying week at work, objectives are clear, teams are delivering results that make them and customer's happy" (we might need "I've retired with a comfortable pension and adoring grandchildren" but there is much to discuss to determine where the 'end' that we work back from is located!)

My question to you is "How will you ensure that when you move-on from reading this paragraph you are constantly linking the contents to the events you see around you in life?" If you do there is hope you'll get value. If you don't potential for value is diminished.

I suggest that you challenge yourself with "how can I take action?" Have you got an answer to that question yet? A "No" is fine for now but adults learn what they have need of skills and when they practice use of knowledge. Application of what we talk about, in a way that is of immediate value to you will build understanding and benefit from the reading investment you make.

Future Chapters

Each chapter has "thoughts on application". Some are procedural; of the "Break two eggs into a bowl and whisk vigorously" ilk – the prescriptive. Some are more "complementary favours combine opposites such as sweet and sour" and some are "seek balance, push boundaries, replace choice to act with choice of action..." – the descriptive.

Apologies In Advance

I don't know whether to apologise more for the recipes that pretend I know your world so can give a success script or for the ethereal which may leave you pondering "yeah, thanks for that, but like, just how?"

Actually, on reflection I do. If you have either unhelpful thought please visit [\[\[See Chapter 39 Ch 39\]\]](#) treatment of 'attitude'.

Descriptive

Recognise the prescriptive can only be suggestion; your reflection on what I suggest must adapt what you adopt. Recognise the descriptive needs your reflection to become steps in a procedure where your peers and other local players enacting their roles too.

{{SOOP 310}} A favourite though is "you can't deliver a project/ program on your own but you can build a team that can"

[[SOOP are Simon's Observations On Projects – the ones in this text start at 310 because there are a number here <http://www.logicalmodel.net/soop-simons-observations-on-projects/>]]

New Behaviour Are a Tough Ask

Taking any new ideas into use requires new behaviours. Behaviours that achieve results with economy and elegance come from practiced habits. Initially new behaviours are awkward and inefficient, maybe ineffective. Reforming habits is hard for an individual and much harder for organisation. Benefits in organisations result from new organisational habits. That's a tough ask.

{{SOOP 311}} The goal of a business experiencing pressure or opportunity is to create new organisational habits. These are outcomes with potential for benefits. Traditionally 'projects' are limited to delivering an output. Outputs enable outcomes. 'Programs' are typically described as the governance structures tasked with deliver outcomes. We need programs to surround every project if we are to be equal to the demands of caring for capital in all its forms; especially the form that is people's shared understandings.}}

I'll stick to the definitions "project = output" and "program = outcome" from now on then. Let us also add that "portfolio = balancing alternative sets of benefit-flows".

Project and Program and Operations and Change and Culture

Project actions achieve output. Technical outputs plus behavioural outputs enable outcomes which generate benefit flow. So I'm (only) interested in projects (outputs) as a work stream within program (outcome). Program is our temporary interest. Interest lasts for the duration of change. As a business I'm seeking to enable maximum value from the 'capital employed'. Maximised value is from the overall portfolio of all uses of our people's skills and will. Operations are the longer term, 'permanent' shared habits (interactions). Operations equates to shared habits (cultural interactions) of the organisation's people, as adjusted, from time to time by the pressures of external change; the adjustment is a program, the enabling the projects.

{{SOOP 312}} Every program includes at least one work-stream; the one that delivers new behaviours and develops them into habits. Many organisational changes require two work-streams – the other one builds 'technical' deliverables. It is these 'Product Development' work streams that get labelled Waterfall or Agile and argued about. An argument that has really missed the key point for delivering value. For value delivery your 'program (or change) exit test' must demand to see new behaviours in operation.}}

Capital Employed

I've more to say about capital [\[\[See Chapter 18 Ch18\]\]](#). For now note that the most important form of capital in any organisation is the organisation's people's shared mental models about "How we get stuff done around here". These are our corporate habits.

Starting Habits

The simplest first step for creating new habits I know is to just do anything different. Pick the easiest thing and stick with it and build from there.

A powerful way to create corporate change is to engineer a disaster. It has side-effects than mean if its first choice we need to have thought through how to channel the reactions. Alternatively when a disaster occurs we should (must!) be ready to capitalise on it – never waste a good disaster – they are forces for rebirth not lamentation!

For example when you leave your home next if you habitually turn left then turn right. If you visit the same shop for groceries or a workday lunchtime sandwich go to a different one or if your day starts with checking your eMails then reschedule them to an hour into the day. If impromptu work meetings are often at your desk relocate them to the canteen or if you watch the evening television news on channel X switch to Y instead.

I don't mean all of these or any of them specifically; I recognise some are impossible for some people. I live in a cul-de-sac. If turn left I can't go anywhere else! You may be in real trouble if unaware of what was in the start of day eMail trail.

The hardest thing about new habits is the first change so a technique that takes a tiny trivial change and builds momentum is a useful tool in the armoury. It isn't always needed – sometime organisations have corporate earthquakes that trigger change. In which case the techniques of how to harness disaster are useful [\[\[See Chapter 6\]\]](#).

Target an Inch-Pebble on the way to a Mile-Stone

For the 'build from small beginnings' approach just take some easy action that is different.

Then use being out of routine as a hook. Attach some positive goal oriented action to it. Integrate 'new goal' action to your 'new easy to take' action. Start your own slippery slope to your own key enabler events [\[\[See Chapter 13 Ch 13\]\]](#). For example instead of a 'coffee to go' on the way to work take a seat and sketch out "one new action for today, one for tomorrow and three inch-pebbles* by the close of next week. (An *inch pebble is a recognisable achievement, a testable state, an event that is some fraction of a milestone which is also an event marking an achieved testable state).

If when I asked "Have you got an answer to that (how can I take action) question?" your answer was "Yes" you can disregard my examples. If the examples gave you inspiration you can set mine aside. If you haven't got your own strategy to take into actual use then the 39 chapters after this one should help.

When you can complete the sentences “this will be of value to me because...” you are on the path to success. When you add “I’ll know I’ve succeeded when...” and “the actions to succeed are...” and “the triggers for action are...” then your path is down-hill.

Reading will give you knowledge. {{SOOP 313 Benefits come from knowledge in use. That’s often called skill or experience.}}

So assuming that you now have a foot or both feet on the path to success we can explore two other factors.

- Your organisation also needs its ‘feet on the path to success’.
Moving a whole culture is as hard (or is that easy?) as moving a person to new habits. You need socialised key enabler events and plenty of follow through.
- Working with ‘Conscious competence’ is slow to execute and error prone [[See Chapter 15 Ch 15]]. Adopting new ways of working that cope in a new future often requires a dip in short term performance. Here is a major stumbling block in most organisations as management is incentivised for operational throughput. {{SOOP 314 A successful change initiative tolerates mistakes and changes incentives before changing operations}}

Don’t try and leap from zero to enlightened without making allowance for failures on the way and allowance for the awkwardness that causes delay until dexterity is achieved. Was it Edison who said “if you don’t fail regularly you are not trying hard enough”?

Practice Away From The Glare of the Critical

New skills require failure to become polished and effective. Which suggests to me that the forum best suited to learning are those where some flexibility exists. Away from the brightest political spotlights.

Get your boss onside.

First imagine how it will be beneficial to them [[See Chapter 16 Ch 16]]. Ask them what they value as a beneficial result. Somewhere in there you must explain what you are targeting in terms of capability development.

Ask how the boss feels about that? Ask “How they will they help you?” and link “What would they want from the exercise?” to what you’ll target.

Only tell them what you imagine their benefits are if they don’t have their own list.

If you can’t have this conversation or it turns out to be a worthless discussion or a disastrous discussion then it may be time to refresh the CV / resume!

Moving the Book’s Contents into Use

Moving the book’s contents into use won’t be easy. Recognise how many [[See Chapter Ch XX]] references there where in the short paragraph of this chapter where I included them. It is evidence that project success comes from a highly integrated set of factors.

Perhaps the best state to be in, in order to start reading is when you have finished reading. As a step in that direction the whole is summarised starting on the next page.

Indeed I learn more each time I read what I have written! (A favourite quote is “I write to understand what I already know”). It may be beneficial to take notes, highlight, re-read, skim first, read more deeply second. ‘Sleep on it’ for a day or two and then précis each chapter into 30 and 300 words. Research topics of particular interest by exploring; it is amazing how much material is available on the internet for free.

Finally; start by cherry picking the techniques and ideas that have the most opportunity to be explored or are the most appealing to you and your boss. A way to do that is take each 30 word précis and sequence them for either ease of adoption or value. A personalised ideas backlog.

Many ideas are relatively usable ‘stand-alone’. Some are interdependent. You might find it of use to develop a prioritised route-map of elements to add to your repertoire. As practice generates capability and success so the opportunity to trial more opens up. Drip feed the second tier of ideas and tools etc. after the ones you cherry picked.

There is so much in this book it is not possible to implement it all in one go. Chunking, drip feeding and iteration are the best philosophy.

The books Sources

The contents of this book come from many sources. The accumulated experience of many colleagues shared in discussions. The challenges thrown my way in organisations I’ve been lucky enough to run projects for and when training but also a pretty extensive trawl through peer reviewed journals. Also from publications like the Harvard Business Review, the books of many practitioners and professors and much besides. Each chapter has a list of resources and sources at its end. Many with links to papers and blogs and websites.

A Scan Across This Book's Whole Journey

In the next couple of thousand words is the summary of the whole journey chapter by chapter. I didn't say for each "This chapter tells you how to..." but you can read each red chapter heading and surrounding words that way.

Our chapter **01-INTRODUCTION** starts by exploring "it is people that do projects" and people are the results of evolution. There are some insights that should help with the nature of projects as things that respond to the complex world in which we live. People's cooperation not 'best practice' is what delivers projects. Then in chapter **02-PEOPLE LEADING** we explore that the project manager job is often bestowed 'by accident'. A trend that is not likely to end soon. It has advantages! It has consequences; mostly these people don't need what is in the text books and standards.

All of us, whether accidental part time or full-time professional project and program managers need the basic skills of focusing a group of people to become a team that has solved a challenge.

{{BLOG 1 What we all need is a pragmatic way to get shared mental models into our co-workers consciousness. Competency in building shared mental models is also needed by the people who have read the textbooks – but the explanation that this is indeed what most of the standard tools really are for is missing from textbooks ☹. Much that could be better is not because of the simple fact so many are taught the aim is to create breakdowns and Gantt's not that the aim is a team and the coincidental artefact is a breakdown (etc.). What we all need is the techniques to share common agreement on the team's working patterns.

Same actions, different intent, different results. }}

Most importantly those shared mental models need to span the needs of the organisation from the Board-Room to Boiler room™. Note a Shared Mental Model (SMM) means compatible but maybe different contents and or representation for different participants.

A theme through out this book is that our real subject is handling change in order to realise benefit. A broader skill set than making technical things like bridges, or software. {{SOOP 315 Projects create outputs. Outputs are valueless on their own. Conclusion; projects are valueless on their own}}

Chapter **03-SUCCESS** is Project success or better yet 'Successful change'. It is a question of perspective. Currently it's a lop-sided perspective with project definition being 'supplier oriented': "to cost time scope" which 100% omits "delivered benefit". A good definition emphasises care for the project owner's interests; the investor's return on investment which means "Caring for Capital™".

Caring for Capital™ is THE main theme of this book.

Investor's return in chapter **04-PROJECTS ARE LED BY AND FOR THE BUSINESS** (the organisation's operational management) circles back to 'People leading accidentally (because they have an 'in the business role')'. Perhaps agile's Product Owner (PO) is intended to be that capability, but often not. "PO" is a tough role and many don't have the techniques they need [[See Chapter 8]]. Business led change is the real-world recipe for success. A trend to encourage and one needing real-world solutions and insights.

Chapter 05-PREDICTING the mass of converging trends in Project management isn't possible but the components of the mix are easily visible. Dissatisfaction with the normal competency level is everywhere and rightly so.

What we can say is that our organisations are purposeful systems.

Our organisations see threat to their purpose or opportunity for it. From threat and opportunity comes the investor's need for change. Those who would be changed then need 06-TRIGGERS. Some triggers are Non negotiable change from Strange Attractors – Those earthquakes I mentioned earlier. Whether the trigger is small trivial change nurtured or something seismic the trigger affects our 'Purposeful Systems' in a Complex Adaptive Systems (CAS) sense.

Techniques and tools to lead and manage within a Complex Adaptive Systems (CAS) context is this book's main contents. Content targeted at Caring for People and Process and all the other elements of the broadest expression of Capital.

One technique we need to achieve an investor's view of success is that which enables us to frame the 07-DEFINITION of VALUE in the context of mission & values. Value plus context & targets causes creation of 08-DESTINATION STATEMENTS (DS) as the senior leadership's "Change-Exit-Test". Exit tests are key; Agile practitioners call them the "Definition of Done" and Conditions of Satisfaction.

Planning is the forward and backwards linkage of destinations, tipping points and actions.

A technique more important than the investor's view of success is the socialising of Exit-Tests that allows those affected and those participating to assimilate the coming change and travel the sociological journey of Shock Anger and Resistance through to Acceptance and Helping (SARAH).

The forwards direction is to the expression of value in a 09-VALUE CASE; part of a wider Decision Support Package(DSP). The backwards is to 'backcast' from the exit-test's vision back to today through intermediary futures. A Business case should express social and other forms of value and the leading metrics that allow us to actively manage the achievement of benefit through new behaviours and perhaps new infrastructure and capital assets. Rarely do business cases contain the right stuff; mostly they are target values for trailing metrics without the full cause and effect hypothesis and without an auditable basis of estimates.

Socialising happens when we circulate the vision's expression as exit test. The Japanese call it 10 NEMAWASHI. Socialising is the sharing of mental models between all those people involved in living with the results and or with deliver the results.

Nemawashi refines the expressions of destination. It also helps identify the Critical Success Factor (CSF)s and the Sequencing & Behavioural dimensions of success. Crucially socialising challenges the realism of the sponsor's ability to 'make it happen' within their influence and interest.

BackCasting is a useful technique for creating an investment's complete design. It is a much better board room tool than the engineer's forecasting approach. Backcasting is a decomposition approach.

Working back from Vision through 11 KEY ENABLER EVENTS and Milestones. Malcom Gladwell's Tipping Points. These key enabler events identify where true success is created. Early Marketing & Socialisation of vision with the widest community overcomes Shock Anger and Resistance. One of the pre-requisites for making success inevitable.

{{SOOP 316The Care of Capital and the search for value is a 12 PORTFOLIO level activity that uses Program & Project. }}

All three of Portfolio, program and project need their common definitions corrected. We also need Stage, Sprint and Phase, and Release and Work-stream.

These multiple, overlapping partially distinct terms are investment's wrappers.

The labels must match the concepts and must match organisational 13-LAYER UPON LAYER – The techniques of Backcasting & Decomposition that model Vision back to Action.

What vision to select is Balanced Score-Card (BSC) & Value Driver (VD) territory. Knowing the required activities is the first step to 14-SCHEDULING but the last step of investment and business planning.

When we get to scheduling activity the aim must in these rushed days be to use DeepTime. Doing as much in parallel as possible and thus placing the most demands on the ability to coordinate. Back to having shared mental models again.

The discipline-specific work to develop Behaviours and Technical Artefacts is not project management, it is what projects manage. The discipline specific brings us to BENEFITS GENERATION - 15- Once again something that is organisation specific. The management of Benefits is about optimised systems over localised or point optimisation. Achieving the best overall system performance is a balance of the behaviours. One that our schemes of 16-INCENTIVES (and sanctions) must drive holistically not poisonously.

Driving Behaviours is something we explore in the chapter CAS & ANT – 17 –(Complex Adaptive Systems (CAS) and Actor Network Theory(ANT)).

A CAS is a bounded collection of agents. For an Organisations the bounds are its CAPITAL that define its CAPACITY-18-. Limits to capacity are the RTO/CTO (Run the Organisation versus Change the Organisation) challenge ideally suited to Kanban techniques. Diversion of resource from “R” run to “C” change must be sufficient for success. We need the factors critical to success CSFs-19- that the Investment's Change-Leader has a duty to provide and which socialisation explored and challenged for realism.

We have better prospect of better benefit when more SFs (Success Factors) are present. When CSFs are missing or we move into uncharted areas then everyone needs a 'point of Escalation' or SPONSORSHIP-Or-SERVANT LEADERSHIP-20. As change leader, my accountable person is the one who delegated to me. When I have a problem, I escalate to them – an escalation is an instruction to a 'superior' to act or fail in their aims. Another uncommon perspective that is crucial for success.

Handling SCOPE-21 has 2 approaches the backlog & the freeze. The choice dictates DEVELOPMENT_LIFE_CYCLE-22 (DLC) choice. Depending on DLC we 23-TRACK up or burn-down but the concept remains "versus intent" to create a Decision Support Package's (DSP) content.

Status tracked is WITHIN TOLERANCE-24 or escalated to that accountable person.

Project tracking is the mixing of three perspectives in the 25-DSP and GATE-REVIEWS. When a Review Gate finds we need to 26-REROUTE we revert to planning for success.

A SERIES OF GATES-27- runs through every controlled Investment cycle. Gates, review points are generically described by many many standards. What we need "in-practice" is reasonably embodied in PRINCE2® (p2)and MSP (Managing Successful Programs). If removed from slavish exam pursuit, and mixed with agility and dusted with common sense then there is value to be built on.

P2 & msp are a long way from complete but when they are combined with our other earlier and later chapters then a complete toolkit equal to our definition of success is delivered.

Control is only possible if we can 28-ESTIMATE and 29-ACCOUNT UNCERTAINTY. Both are challenged by being done by people who are 30-BOUNDEDLY RATIONAL over the VALUE OF INFORMATION. The glue that holds all these Development oriented steps together and carries us into Operations is the unglamorous but vital discipline of CONFIGURATION MANAGEMENT-31.

All the process is nothing without the TEAMS-32 - Teams take time to build and develop synergy. LOSS OF PEOPLE & HANDOVERS-33- are inevitable, cause issues and can be prepared for and mitigated. Changes of people also always has potential to be an advantage when handled well. It is at HandOvers that we lose continuity and gain fresh ideas.

Handovers are also where Validation & Verification should have emphasis. Handovers help in many ways. For example, they partition complexity. Preparing for and managing handovers can usefully use Six Sigma's "sipoc" & PMBoK-Guide's "raci" & systems engineering's "dsm". The (P)M'S SKILLS AND ROLE-34- is a CSF and so too is BOUNDARY_SPANNING-35- As complexity rises so does the boundary spanning within the team. Delivering in complex environments means linking across "structural holes".

To Link across Structural Holes needs communications. A great way to facilitate communication but also to waste huge amounts of time when poorly done is the Workshop. WORKSHOP-TYPES-36- vary by purpose and 37-WORKSHOP TECHNIQUES and ROLES for conduct determines workshop value.

Everything we have covered is towards a revised set of Shared Mental Model (SMM) of what successful PM is comprised.

The most encompassing SMM is ORGANISATIONAL CULTURE-38 which determines what is possible and how people feel and their worklife-values. The inescapable trend on our door-step today is the move of 'Millennials' into and of Generation XYZ's move up the workforce and management hierarchies. Having grown-up with the internet, global financial crises and national government's inability to cope with multinational business their use of 39-DATA, MULTI-TASKING, FUN, HONESTY

& TRANSPARENCY – might counter some of the 'games' played in the past to deliver new ways of coping with change to preserve capital.

Your route to value is the pragmatic one of putting the book's contents to use.

As you go through the contents of the chapters listed above then create your own dated benefits tests, based on your value drivers. As the picture builds you'll start to see how the interwoven themes within project management create the fabric of day to day operations that follows a pattern based on the moon and sun and the event driven forces of change.

References

"The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change" by Stephen R Covey
ISBN: 9781455892822

Further Reading

All the references from herein are here - <http://www.logicalmodel.net/references/>

1 Introduction: 40 insights from hundreds of sources

Success in projects is complex. It is complex because projects are done by people for people.

Project success thus mostly follows from psychology and sociology with a little process and arithmetic thrown in. That is not where most texts on the topic start.

True 'success' arrives after 'the project'. Sometimes long after, with repayment of the investment made. That is not where most texts on the topic end.

We Have to Start Half a Billion Years Ago

Our observations start with the Earth at that stage where it is a spinning ball of rock and water devoid of oxygen. Lots of millions of years ago the oceans contained enough bacteria manufacturing oxygen that they managed to poison themselves (after 300 million years of flourishing). If they had had newspapers and sentience they may have seen un-negotiable change arriving and recognised the onset of their own equivalent to 'global warming'.

The Emergence of People and Projects

Somewhere in the ensuing years came dinosaurs from whom we inherit a primitive brain stem but eventually, due to more un-negotiable change, came "us". Amongst the many fascinating illustrations of how the world has changed and the bacteria have given way to the human is the story of the coyote. Less than 200 years ago the coyote was a small, dumb dog with a limited footprint in North America. Following years of persecution by farmers the (surviving) coyotes are now bigger, stronger, smarter and able to claim residency in 50 of the 52 state of the USA.

The mechanisms that shaped the Earth's population so profoundly over the last half-billion years are still in play. In play in our businesses and our lives (and our projects)! They are Genetic and Memetic Rule-sets. Behaviour scripts followed repeatedly even when their outcome is predictable failure. Too much of project management's current scripting in 'popular' sources is failure script with a perspective that starts and ends short of real needs.

To ignore the genetic and memetic patterns of action and reaction when formulating theories and explanations of how to make projects investments succeed is at best missing an opportunity, at worst it subjects any set of ideas to fatal flaw.

Behaviours

While you read the previous paragraphs you were breathing. An action carried out by that part of your brain largely shared with reptiles, and certainly not the result of thinking “in-breath, out-breath, in-...” Next time you say something in a project context of which you are less than entirely certain try not to touch your nose. It is possible (as a result of thinking about it), it is not necessarily easy. Earlier in this paragraph was a typo: did you read it for what was intended?, did you fail to notice? Was your reaction to demote or dismiss the value of all the words that came before or will come afterwards?

Rsaerch sohws the oredr of
littrees deos not mcuh
mttear for udnretsnading.
Pr0j3c75 4r3 7h3 cr34710n
Of p30pl3 4nd p30pl3 7h3
cr34710n Of n47ur4l f0rc35
(4nd v3ry 4d4p74bl3 w3 4r3
700!).

(The correction would be “certain”. Bedise rsaerch sohws the oredr of littrees deos not mcuh mttear for udnretsnading)

Achieving results successfully means thinking beyond ‘delivered project’ into ‘delivered steady state benefits flows’. This success requires command of tools, for example to express scope such as the ‘backlog’ or family of breakdown structures, but also the appreciation of the more elemental forces of evolution, human behaviour and motivation. Success results from people with shared mental models. A modicum of process hastens building shared mental models. It does not replace the need.

The breakdown structure is listed within every standard project management text book. But we must change the appreciation to be that its use is to build a shared mental model of the solution. We don’t build breakdowns we build team understanding. The breakdown is an accidental and irrelevant by-product. Theose text books say a clear definition of objective is a pre-requisite but omit how to create one.

What we need then is to add the correct perspective on the use of decomposition over the creating of breakdown structures and we need to add tools that support the preceding steps such as the formulation of vision, the cascade and sharing of vision and the challenging and refining of vision.

Sex and Death

Natural forces have given us all attitudes that shape how we interact with the world around us. One overriding programmed imperative is to spread our genes. In business the equivalent to the genome is the memplex. Two truths that drive our universe result; the world is driven by sex and death.

Their manifestation in the business world maybe by metaphors such as market share and margin, personal promotion or increased share-price, a nicer car in the garage, more leisure time and sleeping more soundly at night. The drivers are there in our tribal survival behaviours as we form teams, embrace goals and seek recognition of a job well done.

The mechanics of running a project are so simple that a page or at most two contains space enough to set them out in full. Yet the rest of this book or indeed a whole library is insufficient to fully cover

everything needed in every context. Project success has moved beyond its heritage in the simple mechanics of determining schedules. Relevant but insufficient and no longer even central to success.

Success requires principals, concepts and insights for situational adaptation. This book shares the insights of many researchers. I can't pretend to list all the answers, after all I don't know what specific questions will arise in your endeavours but I do hope to have given you the means to find most of the answers you need.

Approach

The book does not presume any existing knowledge of project management tools and technique but nor is it text limited to 'here are the basics and no more'. Instead it attempts to say from a zero start here are all the steps to advanced mastery. That's easy to describe in a book. The challenge will be for you to turn into unconscious competence in a politically rich, change rich world.

I've included exploration of a wide range of techniques and insights. What is included are the insights that are required or perhaps just help on the journey from steady state 'business as usual' to a new steady state of business as usual.

What gets minimal treatment are the run-of-the-mill discussions of techniques for schedule and budget development as would be found in the Guide To The Project Management Body of Knowledge or ISO standards. These mechanistic elements are touched on because of their enduring relevance but unlike many texts they are neither central nor the be-all and end-all of our coverage.

Above all else I hope the content is useful to you in a practitioner sense. Everything included is imho practical. Everything is based on published sources; mostly peer reviewed research and or wide industry experience. Everything imported from abstruse journal prose is – to the best of my ability - transposed to accessible description but not onwards to painting-by-numbers scripts for use - that is left to you to tailor to local need.

The **WHOLE** Project Story (is Just part of the Whole Story)



A project starts after an idea has traction. The idea germinates in the mind that sees opportunity to pursue or a problem to overcome. In many contexts the idea competes with other ideas for allocation of resources (like the coyote?).

Means such as NPV, IRR or Strategic Fit* vie with politics & power-broking, stakeholder whims and serendipity. (*Expanding the alphabet soup is unimportant here but will be done when understanding is aided by it.)

When the idea is selected then effort is expended to define scope. Often by establishing goals and deliverables, or project “End-Points”. Perhaps ends are defined as SMART* tests to be used at acceptance and hand-over.

‘Project end-points’ are a premature end for the commissioning organisation's interests. They reflect only the delivery organisation’s perspective.

Less, I suggest than half the whole. Project end omits active support of Benefits Realisation.

Benefits must flow to make a project worthwhile. Flow must be measured in ways recognisable to customers and shareholders or the voting, tax paying public.

At the point of 'acceptance' project teams classically test: “do deliverables meet the contract terms?”

The project owner should ask “Do the deliverables resolve (totally?) & satisfy the ongoing need of all (sufficiently significant?) stakeholders into the foreseeable future?”.

A broader, more important definition of success as it reflects value for money. {{SOOP 317 Not all projects are run for financial benefits. But all projects have a cost to deliver that can, at least in part be accounted financially }}.

Delivery Procedure: Step the 1st. Define The Deliverables

The organisation's vision of its future defines a project's required deliverables – the requirements. ‘Waterfall’ based textbooks and many supplier contracts want the requirements to be clear and stable. Reality dictates vision is not always clear or stable. In these cases, a ‘waterfall’ or 100% sequential single pass design first approach is not best.

Reality is also that delivery of benefits will need a mix of social and political and technical elements. The socio-political deliverable_set is always required. The technical are only required sometimes. Delivery of the technical ‘stuff’, in isolation of the really and always needed is where the bulk of current ‘project management’ (rather than benefits realisation) theory is focussed.

After the traditional ‘project’ is over our operational folk must behave and do stuff different to what they did before change was initiated if we are to realise benefits. Since this is vital, since this isn’t in

(*SMART tests are Specific, Measurable, Agreed, Relevant and in contrast to the norm T is for 'Triangle bound'.

The 'triangle' is the balance between project Cost, Duration and Performance.

Performance is an aggregate of Scope & Quality.

In ‘waterfall worlds the scope is fixed and the time and cost result from delivering the scope.

In ‘Agile’ worlds the Duration and resourcing are fixed and as much scope as fits is delivered.)

most of the text books the conclusion must be that we don't have much good benefits oriented advice in common circulation.

Reality may sometimes also need some technical deliverables to enable the future behaviours. The 'mechanical' (or 'positivist', Newtonian, cause and effect, project management is engineering) school of thought sees the latter set of deliverables – the computer systems and fixed assets like buildings - and ignores the more important former set – the behaviours that are adjusted corporate culture born of a shared vision.

Journey To Deliverables

Start with a vision. Vision is shared so objectives, approach and constraints become known. Constraints may be the required delivery date perhaps, a limited pool of skills perhaps or restricted funding.

As the enablers that will make the goal inevitable are defined so the tasks that will create them and the time, skills and resources that will be consumed in creation or acquisition can be calculated, plotted and requested.

The development team's capacity to deliver fixed assets and infrastructure, also the required due dates and the operations team's adjusted or new behaviours and their capacity to absorb change may all flex and emerge as we proceed.

If we live in world the of Agile and #NoEstimates then dates may be fixed or never stated and scope may be flexed [\[\[See Chapter 28\]\]](#). Some contexts (I.E. 'Waterfall' development approaches) define 100% of scope first and then delivery dates are calculated from required scope and development capacity.

One approach suits building a nuclear reactor and the other suits building a web-site. Building a theme park might use both approaches. Both approaches share the need to include allowance for uncertainty, allowance for change of intention, allowance for failure of capability versus aspiration and for every other way in which either the half-billion year forces or the reptilian and higher minds can confuse and confound purpose. They agree the need and differ about the how.

In this jumble of uncertainties are some of the reasons the common collected insights on project management are still insufficient to cover everything needed for everyone to see success when reaching their definition of the end.

Execute

Once agreed ('planned and base-lined') at whatever level is appropriate then development activity is executed via agile sprints or traditional phases. If we possess the quality control insights and scope verification techniques to reliably gauge 'doneness' then and only then can results be compared to aspirations.

Variances from agreed intention can be identified. Velocity towards goals assessed. Advances & advantages consolidated, problems responded to and the sequence of plan (aspire), execute (perspire?), measure, re-plan/react, execute (expire?), and re-measure cycles repeatedly until all deliverables (physical or not) are produced, participant needs' satisfied, and the investment is no longer project but Business as Usual (In direct contradiction to the p2* manual).

All too often plans are created when knowledge levels are lowest and then followed into failure.

A more enlightened approach treats planning as vital but plans as ephemeral. Planning builds the shared mental models of the options we can choose between when reality shows how choices trade-off.

Our approach in this book is that {{SOOP 318 when faced with change it is the outcome that is sacrosanct, not the plan.}}

The current route (plan) is the best we can see today. Any plan is to be dispensed with when proved wrong or insufficient. Our outlook is ISTOONA [[See Chapter 22]] – Non allegiance; the left AND right have value and both are vital and have always been vital.

The "left and right" may conjure an image of the Agile Alliance's Manifesto in you. Whether

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BE INCLUSIVE AND RELAXED ABOUT METHODS

((*When PRINCE2® (PRINCE2 is a registered trademark of AXELOS Ltd†) is peppered through a passage of text the shouting of its name jars the flow so it is "p2" in here from now on. Using "P2" (or "p2", "msp", "pmbok-guide") means they don't undeservedly dominate passages like their full loud labels would.

†Also while I'm noting p2 with the ® note that the heavy handed, and it is heavy handed insistence on "®", the exam focus that dictates emphasising the less than best with equal weight to the correct, which claims completeness when it's a partial solution etc etc instead of eliminating the wrong and emphasising inter-operability is exactly the sort of intellectual property bureaucracy that leads to methods wars and damage to the discipline's capability and evolution.

These IP 'protections' are the reason Agile and scrum and #NoEstimates are xenophobic battle cries. Many agilistas have 'ignorant prejudice' – by which I don't mean to be pejorative. Agile stands on the shoulder of much that its young protagonists express dislike for. They believing agile invented ideas that it usefully reuses. What we need is Alistair Cockburn's ISTOONA approach - Treat all ideas on merit regardless of source and adopt adapt and discard as suits best.

Methodological 'Travel' broadens the mind. Broad minds solve tougher situations faster and better))

it does or not its influence is throughout his book as well as the spirit of 'I signed the Oath of Non-Allegiance (ISTOONA).

Projects are not the whole story

Project closure is really only the beginning – for who ever did a project for its own sake? Only suppliers and they are not the investors in uncertain returns at guaranteed costs.

Projects are just a necessary evil to enable some potential and uncertain benefit (the metaphor for sex) or avoid some problem (death). After 'closure' the biggest challenges are encountered; restoring a new normality with new benefits flows in steady state.

Hello and Welcome

I'd like to expand the little context given under the Approach heading above: I hope you already appreciate that this is a book mostly not about what you read in 'standard' books about project management. Mostly this book is about achieving results through the efforts of other people. People with challenges who want to achieve their own results or people in the midst of other people's challenges being affected by imposed non-negotiable change.

I think it helpful to expand why this book isn't full of what 'accepted wisdom' would include.

What 'accepted wisdom' includes in the many 'bodies of knowledge' and derived works is indisputably, on average, a recipe for degrees of failure that range from total, pass through mostly and cluster at partial. Accepted wisdom is based on engineering (or operational research) optimisation developed in a world where cause and effect could be mapped deterministically back and forth.

What we have today is a need for tools to support goal development, benefits expression, team building and leading and adaptive maximisation of bang for the buck in a dynamic, unpredictable world. - that is what we have in these pages (I hope!)

The need for the focus in this volume is obvious to me and I hope to you too when I spell it out: we need to reduce the frequency and size of project failures!

We need to proceed through positioning the human context at the end of half a billion years of evolution; {{SOOP 319 projects are done by people for people.}} The question is how can we harness the 'genius' of crowds over the fallibility of individuals?

How does the project manager (change leader) create a crowd that is jointly focussed on and contributing towards whatever benchmarks are chosen to define success. A crowd with shared mental models of the future. The answers are in the chapters ahead of us.

A key aspect of the project manager's role is to create a 'coherent crowd'

Our journey onward from "what is the right topic and what is success?" covers the blending of psychology and sociology with technical activities. Features of this landscape include leadership, estimating, teams, culture, coping with scope, governance

frameworks and life-cycles, portfolios and agility, organisational ambidexterity, actor network theory, backcasting, product lifespans and development cycles and calls to action that ask you the reader to implement what we have explored.

All this in the context of complexity and agility.

Complexity

Complexity is a systems concept that arises from 'emergence'. A complex world often results in the arrival of unpredicted and non-negotiable change.

Agility or responding with ease and speed is something organisations have always prized. We should really call it elegance.

The desire to be agile is not new just newly loud. It is not THE answer just as "The" Guide to the project management body of knowledge is not what it claims to be viz: "The (sic) standard". Everything, however is a valuable contributor.

Defining Project Success

That oh so much has been written about what defines project success is truly sad. Sad because it reflects misalignment between people's varying view-points. "What is project success?" should not be a question that require debate to define. That it gets so much debate shows many people's perspectives are 'logical' extensions of their own parochial start point rather than a holistic consideration. We cover 'success' from the research & application perspective in [\[\[Chapter 03\]\]](#) "What is Project Success?" has a much-debated answer.

Your Role

It is possible your current or intended role is titled 'Project Manager' but it is as possible (and statistically more likely) that your role is titled something else.

Whenever someone's role title includes words like Leader, Director, Manager, Senior..., Lead..., Principle..., Chief..., then the likelihood is that the role requires the driving of responses to change. Change may be evolutionary or sudden and dramatic. Change's likelihood ranges from certain to highly probable. Change spawns projects whether your job-title includes "Project...." Or not. Projects are just a recurring fact of life.

Change spawns projects whether your job-title includes "Project...." Or not. Projects are just a recurring fact of life.

If your start point is "I'm not a project manager, I have a day job that includes project management needs" then this book is for you. It's content is as relevant whether you commission a specialist to be your project's manager or 'do the pm bit' yourself. It will give you a complete toolkit for business results across change. I might say it is especially relevant if you hire a Project Manager steeped in the mechanics of critical paths and earned value calculations who relies on quoting "To cost time and scope". You'll need to balance their blinkered bias!

“I Am A Project Manager”

If your start point is “I’m am a Project Manager and I know my trade” I hope that you will find lots and lots in here that expand the completeness of your knowledge in breadth. There are no instructions on the calculation of float in here but do you treat float as a resource including in a kanban contexts? Is “in a kanban context” a phrase that carries meaning for you. If so do you understand the strengths of ‘Waterfall’ approaches? Do your working practices accommodate control of traditional, iterative and complex project elements as easily as each other?

If your start point is “I’m not a project manager but I want to be one” (or just better informed, perhaps as manager of project managers) then this book gives you a holistic and entirely complementary set of perspectives into which you can integrate the narrower topics of scrum and MSP* and p2* and PMBoK-Guide® and PM4NGOs and lean six sigma or many (any) other frameworks.

A Logical Order is Time’s Unfolding

My exploration of over three hundred research papers, blog and books and 30 years of working in project contexts suggest that ‘How to succeed in delivering outcomes’ can be grouped under several major headings with no ultimately perfect sequence. Every topic is so highly integrated with every other topic that Catch-22* cycles are unavoidable.

(* Catch-22 is when A depends on B and B depends on A – From the travails of Captain Yossarian in Heller’s novel Catch-22)

This book is comprised of short chapters that make it ideal to dip into in a random-walk sequence. However I think a logical sequence reflects the way time unfolds as a project progresses. Thus Defining Outcomes [\[\[See Chapter 8\]\]](#) is included before Realising Benefits [\[\[See Chapter 15\]\]](#) but concepts like what is success [\[\[See Chapter 03\]\]](#) are best covered before both of these.

Since the words have to be laid-out serially I have tried to make the story-line build logically across the introduction of concepts and techniques and then the life-cycle of change. Like Heller’s novel treatment of topics is not strictly chronological. In my case because it isn’t possible to pick a single logical approach to grouping topics and following time’s passage. Some topics are in a Catch-22 relationship. I have written the words mindful of the

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APPROACHES

*Scrum is an approach to projects like the famous “How do you eat an elephant? By many many small bites”. Scrum is suited to environments that are highly emergent. That is where planning in advance is mostly a waste of effort because the world will have changed before you get to the plan. No chess grand master can know their actual move 10 moves ahead because the dynamics of the opponent’s moves. Scrum is reactive. Thus communications is critical. Thus Scrum is a very procedural, iterative communications centric approach to development.

MSP=Managing Successful Programs and
p2=Managing Projects in Controlled Environments
and pmbok-g = Project Management Body of Knowledge and pm4ngos = project management for non governmental organisations which are also all prodecuralised ‘frameworks’ with varying scope and approach.

fact that you may not be reading in the given serial order and reading in order still requires iteration in places.

In a running change initiative (I.E. a project and beyond) on any given day many of our necessary sub-disciplines of goal and team building and quality and reporting and more are relevant concurrently.

Project management's integrated nature means forward references to as-yet unexplained concepts are inevitable.

When a forward reference is required I've included cross-references. I'm ever mindful of some readers reading in a 'cherry-picking' sequence. I envisage that some chapters may benefit by being interrupted to read other chapters; project success requires a nuanced appreciation of multiple interconnected, concurrent influences and actions.

To accommodate this challenge as well as cross references for diversion as we proceed I also suggest at the end of each topic a "Where to look next?" the result is a book whose consumption is unlikely to be non-linear for many people. Indeed in places it may be best to be iterative! There are places where the Catch-22 understanding of topic x is helped by knowledge of topic y and vice versa; a reading order that includes a second reading of some topics may be most fruitful!

Key Points

People follow scripts to do projects. Projects only exist to enable our true wants and needs. The real wants and needs are satisfied post-project (as traditionally defined). Its time for a new perspective that takes an investor's view of success.

Emotions & the implications and memetics of Complex Adaptive Systems (CAS) drive everything. Success in a systems world needs more than reductionist analysis. The bits do not have the same properties as the whole.

In short; The old ways are no longer sufficient.

Call To Action

Top

2 PM's Assignment - Vocation or Accident, Full or Part time

In "Demystifying the folklore of the accidental project manager in the public sector", Vanessa Darrell and her co-authors David Baccarini and Peter Love found that becoming an accidental project manager was common. They also found the assignment paid more attention to technical and general managerial expertise than project skills, was often an additional part time role and was undertaken with little or no education in project management.

Globally approximately (unreliably but usefully indicative) 12,000,000 people have a project management title. About a million have a knowledge based credential. Under 60,000 (apparently) have experienced based credentials. There is wide debate about the relevance of the knowledge based credentials and several academy investigations such as that by JoAnn Starkweather and Deborah Stevenson 'prove' knowledge credentials like p2 and pmp* are not statistically correlated to success.

*PMP is the 'Project Management Professional' credential whose entry criteria requires significant real world experience and whose exam then confirms ability to use a common vocabulary and shared mental model with peers. The degree to which the experience element is counterfeited is a worry to some. There is no doubt the exam requires a very careful (and stylised) recall of the pmbok-guide's contents. Passing the exam is a non-trivial effort.

Mostly accidental project managers learn their craft 'on-the-job'. Professor J Rodney Turner et.al conclude in 'Learning by Experience in the Project-Based Organization' that successful Project Managers need tacit (know how) and explicit (know what) knowledge. Both can be gained on-the-job. Only explicit knowledge is gained when attending formal training such as that aimed at certification. Turner and co. start by quoting Plato's assertion that training is best received after some guided experience to put the useable tacit skill into a framework.

Context

When the role of project manager or elements of the project manager's role lands on people 'by accident' the reality for many of them is that 'they also have a day job'. The project responsibility they gain for leading a project or taking a project related role (or two) is dumped on top of an already full diary. The same often happens with sponsorship as we will explore in [\[\[See Chapter 20\]\]](#).

...appreciation of how to survive or even thrive from association with project based work is an inevitable requirement in many people's (everyone's?) careers and even non-work lives.

The norm is the 'lucky victim' is asked to take-on delivering results that are within their business expertise. The alternatives are that our newly appointed project person is a projects specialist and knows less about the business area or perhaps they have a foot in both camps. Clearly most recruitment activities look for a domain expert with some project skills rather than the other way around.

When the route by which project duties arrive is 'added to the day job' Darrel et.al. found that people were often unfamiliar with the project way of working; full of unfamiliar vocabulary and

concepts, unknown tools and techniques and unknown procedures. What looks like it should be just commonsense turns out to be arcane and seemingly overcomplicated.

Whether you are assignor or assignee it is important to realise that projects are a different mindset from operations. As assignor or assignee it is important to differentiate the customer view point of project as “a blip in continuity” and the supplier view point of “projects are finished and then we move on”. It is important to realise there are phase specific tools plus techniques such as as envisioning the end-point. It is correct tool use in the correct time-frame that delivers a coherent crowd and it is the crowd's shared mental model that deliver the business results within the business constraints. I would add cross references here but am in danger of adding a complete chapter list so the most central one is I think [\[\[See Chapter 8\]\]](#).

Thoughts on Application

In his paper “Blowing Hot and Cold on Project Management” Professor Christophe N. Bredillet quotes global GDP approaching \$50bn and between 20% and 35% of organisational activity being project based.

The prevalence of project based approaches to work is growing. Projects are the response to change and change is more common in a more connected world. The world is undoubtedly becoming more connected! Change itself is changing!

Consequence of Accident

Darrell, Bacarini and Love's findings agreed with similar studies of the accidental appointee. First that while projects are actively promoted within organisations those staff appointed by being in an adjacent place at the (in-?)appropriate time are probably not actively supported in project endeavours. Methods, standards and tools are probably not widely available to them. Project resourcing is not the priority and mistakes from these people given unfamiliar roles are unlikely to be well tolerated. On the up side they found those assigned had great opportunity to gain experience and that if education was available it was considered by the majority of recipients to be either 'effective' or even 'highly effective'.

The Vocational Choice

For the career project manager project specific education is likely be on the agenda from the start. Often specialist project management education has the specific aim of achieving some form of industry recognised certification.

The prevalent certifications reflect the mechanical skills of schedule development and template based document construction, triggers, timings and flows. Perhaps their 'popularity', at least when looking at frequency of reference in vacancy descriptions, stems from making the recruitment industry's job easier. The certificates are knowledge based rather than competency based.

The knowledge included is narrow in focus and scoped around needs that were 100% of the solution 75 years ago. The central need today is driven by complexity resulting from Emergence; the interactions caused by a more connected world. See [\[\[See - sixteen Ch 16\]\]](#). Common bodies of knowledge omit almost all the human side of collaborative endeavours [\[\[See Chapter 32 Ch 32\]\]](#), all

the value driven business side of undertaking an initiative [\[\[See Chapter 08\]\]](#) and all activity after the end of the product development* lifecycle [\[\[See Chapter 15 Ch 15\]\]](#).

*We should talk “acquisition” because capability can be acquired by choices to either make or buy. “Development” should be read as being inclusive of either “make it ourselves” or “get someone else to make it for us” or “buy it as a ‘standard’ solution”

What common certification streams do successful do is ensure that two similarly qualified people have the same vocabulary and initial shared mental model of an idealised project scheduling, budgeting, reporting and controlling structure. From this basis the discussion can explore the specific and special needs of ‘this’ project. This relevant purpose but inappropriately and limited scope is the same in all agile, iterative and sequential approaches [\[\[See Chapter 22 Ch 22\]\]](#)

How to Use The Insights

When either embracing a role as an accidental part time project manager or when assigning someone to be a part time leader of some part of the project’s activities there are a one or two essentials. The crucial elements to build into the understood shared mental model for overall success* are the following few points;

*What defines success depends on viewpoint as we will explore in [\[\[See Chapter 3 Ch 03\]\]](#).

Focus on end point & deliverables & tasks & skills & availability

When faced with change the leaders of organisations think backwards [\[\[See Chapter 13 Ch 13\]\]](#) and [\[\[See Chapter 08\]\]](#) from desired results. Our project planning mindset must do the same, at least at the strategic level. Identify the project’s end-point [\[\[See Chapter 08\]\]](#) based on value [\[\[See Chapter 27 Ch 07\]\]](#) and [\[\[See Chapter 9 Ch 09\]\]](#) then imagine the deliverables (intangible such as behaviours as well as everything physical).

From envisioning the end-point in deliverable terms comes knowledge of the tasks in their development life-cycle, then the skills (and facilities and materials) to make or acquire the deliverables and then the availability of all the factors critical to success [\[\[See Chapter 19 Ch 19\]\]](#). The process here is Backcasting in contrast to forecast planning. See [\[\[See Chapter 13 Ch 13\]\]](#).

Planning is key, not plans – Planning builds SMM

General Dwight D Eisenhower is quoted as saying “in matters of warfare I have always found plans to be utterly useless but planning to be indispensable”. Clearly he knew the value of shared mental models(SMM). Projects do not run to plans but project teams both follow a plan while it is useful and share ideas (options) about potential routes to success when planning. Planning is a social not a solitary activity. A useful plan is between the ears of the team members not between a document’s covers.

A useful plan is
between the ears
of the team
members not
(just) between a
document’s covers

Plans should only be followed while they are useful and should be replaced as soon as the target moves, progress is not to plan or a better route to success becomes visible. If assessed regularly the

what is replaced is minor and un-traumatic. Paraphrasing one of Fred Brook's more famous quotes "You only get to be a year late one day at a time".

Scheduling & Budgeting are a (small) part of planning - Any approach is OK, Flowcharts work well

When talking of plans the dominant image conjured up in people's mind's-eye is a schedule perhaps represented as bars scaled against a time-line. Typically called a Gantt chart after late 19th early 20th century mechanical engineer Henry Lawrence Gantt.

Gantt charts are excellent reporting tools because they show clearly work expected, work completed and work outstanding versus schedule. Their construction however is not the single step solitary process many people attempt and a Gantt chart's inability to show alternate actions and cycles such as "If tests fail then redo the current step..." mean other tools and techniques are the best way to arrive at the Gantt chart's contents. [\[\[See Chapter 13 Ch 13\]\]](#) & [\[\[See Chapter 14 Ch 14\]\]](#)

Progress is measured by knowing quality

Planning shares "Where are we going?, How could we and how do we choose to get there? and How will we know when we have entirely arrived?" Entirely arrived means the project's results are what the customer wants.

The essential pre-requisite to both planning and to tracking project status is 'Quality Planning'(QP) [\[\[SeeChapter13 Ch 13\]\]](#) & [eight](#). QP can be an invisible step that merges into the activities of defining scope and collecting the business' requirements. Quality planning is the process of selecting or creating the standards that will be used to judge project deliverables and so QP is also the step of selecting or creating the standards that will be applied to development processes that produce or acquire and assemble the final result.

Without performance standards the likelihood of meeting product standards depends either on luck or invisible (tacit) skills. Without product standards the ability to gauge progress and agree completion is absent. Without product and process definition all estimating is impossible [\[\[SeeChapter28 Ch 28\]\]](#).

A behavioural work stream is always needed. A technical one maybe needed

To bring project results into daily use always requires some change to practices and behaviours by the organisation's operational staff engaged in their day to day routine. A revision in the mode of business as usual. Thus to deliver value from a project's efforts and costs always needs a people oriented work-stream that creates new work patterns.

Only sometimes is a technical work-stream that creates new buildings or new production facilities or new administration systems or new supplier or customer relationships needed; behavioural always, technical sometimes.

Ironically all the 'popular (common)' project management standards are 99% focussed on control of the technical product development cycle and 99% focussed on schedule and budget. These are important, but they are far from the whole story and far from the most important elements.

It is the merging of the technical and behavioural work-streams that is what brings payback from project activity. We will focus on these as the Key enabler events of 'project success'* [\[\[See Chapter 11 Ch 11\]\]](#) Here the 'Accidental Project Manager' now has the major benefits advantage twice over.

*The success we truly target is a benefits flow that gives a return on the invested effort that the project consumed to get to outputs produced, in use and outcomes occurring. Hence forth always adopt a sponsor's perspective that project success means 'satisfactory overall return'. We will properly explore the topic [\[\[Ch 03\]\]](#).

Business Advantages For Benefits From Creating Accidental PM's

Often our specialist project manager has departed the scene of the crime by the time benefits are possible. She or he does not have operational expertise or responsibilities to use a project's outputs. Lack of operational savvy means no relevant ability to create the business supporting future benefits stream. It was that proposed benefit that justified the project's cost and disruption. Our 'foot in both camps Project Manager' may offer better value by helping to bring a steady state to the future business as usual. Now we should distinguish the role as 'Program Manager' but we must first redefine 'Program' as commonly repeated [\[\[See Chapter 12 Ch 12\]\]](#). Our Accidental Project Manager is the one most likely to have an on-going duty to live with the results and so the most interest in them being fit for purpose.

Knowing what is really needed in the operational sphere with a visceral understanding from the start and having the prospect of ongoing involvement after the project ends are two hugely valuable contributors to project success. The first confers the skilled judgement needed in decision making trade-offs throughout and the second greatly contributes to both ability and motivation to consider the long-term versus short term factors.

Key Points

Project success rests on shared understanding across the team. As the Project Manager whether specialist or accidental you should in all things seek to build common understanding of how to plan, what the required result is and how (as of today) we imagine and agree we will get there.

The accidental Project Manager's great advantage is starting with a complete understanding of what the future operations could or should look like. If you are not the accidental Project Manager then ensure your sponsor enrolls one or more future operational staff in their project as an accidental project participant. As yet unexplored in this book [\[\[See Chapter 10 Ch 10\]\]](#) & [\[\[See Chapter 11 Ch 11\]\]](#), but they may start with a strong resistance to change; we have techniques to help explore in these cases.

If you are the accidental project team leader, project participant or project manager (or a Project Manager who is certified but wonders at the syllabus' actual relevance) then you can rely on the rest of this book for guidance in how to be successful.

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3 What is 'Project Success'? Can So Many Really Be So Wrong?

I am amazed; how can there be so much confusion generated by the simple question “What is Project Success”? One simple answer is “You feel good about yourself and the team*, the team feel good about themselves and you”. *Here team is the widest collection of customers and project participants.

In academic circles one form of research is ‘the literature survey’. The key elements of which these days are to search some of the larger online databases of academic papers for significant keyword and then read what has been written previously before writing a new paper summarising the themes that repeat.

In these searches some papers are re-quoted time and again while others get only a rare mention. Much repeated sources on the question of project success are perhaps led by Terry Cooke-Davies’ “The ‘real’ success factors on projects” in the International Journal of Project Management, also common are “Critical factors in successful project implementation” by Pinto and Slevin in IEEE Transactions on Engineering Management and ‘What is Project Success: A Literature Review’ in the International Journal of Business and Management by Guru Prakash Prabhakar.

I could reference many more but Prabhakar summarises it well “There is wide divergence of opinions in this field; the only agreement seems to be the disagreement on what constitutes ‘project success’”. Like many others he then goes on to quote De Wit’s “Measurement of project success.” International Journal of Project Management make what seems to me to be simultaneously blindingly obvious, wrongly observed and sadly incomplete.

The blindingly obvious is paraphrased for us by Cooke-Davis when he writes that “De wit and other writers distinguish between project success (measured against the overall objectives of the project) and project management success ...traditional measure of ... cost time and quality”.

What in my eyes is the wrongly observed and the sadly incomplete is that the ‘overall objective’ differs in the eyes of every observer. There is not one measure on this side of project success but concurrently tens or hundred or thousands. The blindingly obvious is that success has to be ‘project success’ in terms of the investor’s objectives not the supplier’s contract based performance constraints.

I suggest that the notion that a project (which we have yet to try to define but let us for now use the rough idea that a project is ‘an unusual undertaking’) should be declared successful if the final combination of cost time and quality are close to some initial assessment is pretty meaningless. Being close to the target maybe meaningful in highly predictable repetitive operational environments but is just serendipity in most projects. Projects are un-repetitive, so unpredictable, reactive endeavours. Worse yet “to cost time scope (or quality)” is totally divorced from the true project success above.

I’ll clarify “totally divorced”; if the project costs twice as much as originally expected to make ten times the aggregate return is this failure? If the project takes half the time and half the cost is that

failure? If a project reduces staff numbers and reduces quality of service in whose eyes is this success? Anyone's? If customers are retained maybe the shareholder gains.

Two meaningful (but not really correct or complete) definitions that the above gropes towards are:

- the supplier's view point approximated in cost time quality is better stated as "obligations discharged without dispute and bill settled (through payroll or invoice)"
- the investor's viewpoint is better stated as "made at least the expected and acceptable social or financial return on investment". Note that at end of 'project' in classically defined terms, as the investor I am likely to be the furthest from return on investment that I'll ever be.

It may be instructive to explore the history that gives rise to a debate over a question whose answer should be obvious. It certainly helps us contextualise many other challenges with being successful in project endeavours and so will be a foundation stone for discussions from here on.

If we trace the literature about the origins of management and projects we find references to the pyramids, Henry Fayol, Henry Ford, Henry Gantt and many others, not all of whom are called Henry! We also find reference to the production demands of the second world war. It is a sweeping generalisation but for brevity we might say "somewhen around the second world war project management was a component of engineering whether that engineering was marine or civil engineering or mechanical". The prevailing view was "decompose things into parts, analyse them, strive for repeatability and optimisation". In short an Operational Research view that better decisions result from analysis. Philosophically part of the Positivism movement.

Civil and some other branches of engineering were established fields. Maybe electrical and chemical were a little more emergent while software was unheard of and aero space ranged across the spectrum. In these times managers managed across times of market place stability and times of change. Post WW ii manufacturing has been revolutionised. For example by robot production lines such as those at Toyota. That revolution includes new approaches like Toyota's TPS and Motorola's use of quantitative analysis of a process driven approach; we can thank them for Lean (TPS, Toyota Production System*) and Six Sigma. Positivism or logical treatment of direct experience is good engineering.

(* The two are not strictly synonyms – I leave the differences to the interested reader to research)

However more significant has been the emergence of software and more significant yet is being and will be connectedness between people (and things See [\[See Chapter 16 CH 16\]](#)). Project success owes less to engineering than to sociology; philosophically defined by Antipositivism. To build the products may need engineering. To build the team and deliver success beyond project cost/ time/scope definitely needs sociology, psychology and politics.

The place of management has evolved as computers have moved from WWII code cracking and research institutes into the workplace. At first computers automated well known manual processes such as payroll and accounting. Business managers transferred menial tasks into computerised tasks. New technology teething troubles led to the codification of the engineering portions of project

management (and software development – the two are intertwined). For example difficulties with capturing a clear view of requirements and subsequently delivering a system that coped with the mundane and the exceptional led to Winston Royce's paper often (wrongly?) quoted as the source of a 'Waterfall Model' of software development.

Military projects such as Polaris and oil and gas projects led to the codification of the steps to calculate schedules and budgets, the techniques to include uncertainty into range estimates and to make resource allocations to the time-phased critical path.

Against this background managers in business readily took to outsourcing that tricky and unpleasant stuff called 'change'. Managers in suppliers continued to codify how to successfully deliver a project's outputs against their own targets; cost, time and quality expectations. The management of something temporary diverged from the management of something permanent (operations), at least in some spheres, to be two separate skill-sets. The something temporary has only an engineer's view point.

60 years ago it was good solution to the issues of the day. Care of the investor's return was still firmly in the regular business manager's duties. But evolving technology has long since moved past automating existing procedures. Codification of the project knowledge remained in the hands of the supplier. As a result it has remained firmly fixated on the end of the expenditure phase of a business initiative not the more important end as Cooke-Davis and DeWitt highlight; reaching the investor's objectives.

In a highly connected world project management's commonly defined content is divorced from investor benefits and divorced from all the socio-political aspects of managing change. The world has outgrown what project management text books convey as the body of required knowledge.

The only people who do projects for the project's sake and so meaningfully claim success is "to time cost & scope" are the suppliers. For the supplier project success is "Obligation met, fee is indisputably due" and that is fine. For the most involved members of the project team success often ranges across "Learned new skills" or "worked 9 to 5 and lived the rest of the day/ week/ year".

For the rest of us who are involved we are in some sense the project's customers. Our customer definition of success is "beneficial outcomes over the long-term". As customer we are probably also the investor, perhaps as the tax-payer funding public services, or as a private company's owners or a publicly quoted company's shareholder.

Thoughts On Application

Every project has many stake holders. A stakeholder is someone with an opinion about the project and its ongoing legacy [\[\[See Chapter 16 Ch 16\]\]](#). All stakeholders matter but some matter more than others. The key is to recognise what are the success criteria (or Acceptance Criteria [\[\[See Chapter 16 CH 16\]\]](#)) of the most significant stakeholders.

Investors in a change (project) have a set of success criteria that are very different from the supplier's in both nature and in timeframe. If the project builds an aircraft carrier the interests range over tax payers who have an acquisition cost, a year-on-year ownership cost and a sense of security

feeling that might span 5 decades. The navy's seamen, the pilots and participants in politics and terrorism on the world's political stage and many others have interests.

Being successful as the project manager means using the tools of scoping, quality planning and constraint modelling to develop and then maintain the best possible balance between all the definitions of success that exist concurrently. Some definitions will be unspoken, some unrealistic, some contradictory, some will coexist without conflict. Some will be stable and others volatile. Tools and techniques of later chapters will help us move from expectations to agreed, prioritised, objectively testable and where relevant subjectively assessable criteria.

Key Points

- No matter what your affiliations are always treat the definition of project success as a tapestry of all stakeholder's opinions, even where contradictory. It isn't necessarily the Project Manager's duty to resolve the contradictions. Politics could probably belong to the sponsor [\[\[See Chapter 20 Ch 20\]\]](#)
- It is always the Project Manager's duty to ensure stakeholder's definitions of success are explored. Use the tools to define end-points to elicit definitions of success [\[\[See Chapter 08 08\]\]](#). P2 highlights the journey from "CQE (Customer Quality Expectations) to AC (Acceptance Criteria)".
- Use the techniques [\[\[See Chapter 10 Ch 10\]\]](#) & [\[\[See Chapter 11 Ch 11\]\]](#) & and workshops [\[\[c36 Ch 36\]\]](#) of project definition to resolve or at least highlight the tension between success criteria.]
- Have you thought about your success criteria from reading this book? It would be sensible to "Start with the end in mind" by considering learning beyond reading the book [\[\[See Chapter 40 Ch 40\]\]](#).

See elsewhere in this book

3-5 other book chapters

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4 By The Business - Who has the Change Manager's role

The Research

Change manager is another job title that owes part of its heritage to the history of IT's evolution from "automate well know processes" to "enable never before conceived capability".

J.Bruce Harreld previously Senior VP of Strategy at explains that success results from local leaders "Sensing & seizing" local opportunity.

IT's birth led general management to learn to outsource technical development activity. Then to expand the scope of what is outsourced. The need for someone with skills in facilitating change emerged. A role that has more focus on 'soft skills' and Organisational Development (OD) than the historical project manager with critical path analysis skills and a cost, time scope perspective would bring.

The change manager's tenure is also to a different time-frame to the traditional project manager's. The change manager may start earlier but definitely ends later than supplier based project managers.

"Competencies for Managing Change" by Professor Lynn Crawford of Bond University, Australia and Dr Anat Hassner Nahmias an organisational psychologist working as a change manager identifies rivalry between project managers, change managers, program managers and corporate executives in "taking the leading roles in handling major organisational changes". They show that the skill sets overlap, but the focus is different.

Harreld recalls in "Dynamic Capabilities at IBM: Driving Strategy into Action". Harreld, O'Reilly and Tushman how Louis Gerstner (whose appointment at IBM had been as the 'rescue CEO') challenged him to "think how strategy could be made more relevant". Harreld's result was the IBM Business Leadership Model.

Harreld and Co write "Strategy is not about how to beat the competition but understanding the client's needs and removing the barriers needed to help them—beating the competition is secondary...the process must help line managers to be engaged and competent in the strategy-making process. A central part of this process is to keep strategy making at the business unit level with the people who best understand the local marketplace. The IBM Business Leadership Model emphasizes the role of the general manager and the interdependence between strategy and execution. Strategy is stimulated by leaders' dissatisfaction, the perception of a gap between current and desired performance. In the IBM model, this can be either a performance gap (a shortfall between expected and actual results), or an opportunity gap (a discrepancy between current business results and those achievable with a new business design)."

Thoughts On Application

The translation of strategy to action is the birth of projects. Those projects must create operational change or they would not be worth doing. It is likely that operational change is easier and swifter to settle when thoughtfully managed with insight. Crawford and Nahmias' focus is on 'Organisational

Change' by which they appear to mean wide-spread and significant change in contrast to localised change such as refinement of existing practices. The key though is that change at all scales needs to result in operational capability that enables new patterns of working and the local operational manager is always best placed. The key is to give them the skills and those skills are not, by and large 'how to calculate a critical path'. They may be accidental project managers [\[\[See Chapter 2 Ch 02\]\]](#) but they should not be accidental scheduling specialists.

The catch-phase of Alan Fowler, co-author with Denis Lock of "Accelerating Business and IT Change: Transforming Project Delivery" is "by the business, for the business". Fowler argues that incumbent business managers probably have the most relevant local knowledge and definitely the strongest motivation arises from their destiny to live with the results.

The ultimate target must always be the definition of success from [\[\[See Chapter 3 Ch 03\]\]](#). Now it is clear that whoever takes the lead in introducing change requires a cocktail of capabilities.

Operational managers are best place to direct actions that carry all the organisation's people with us. Delegating the creation of the technical deliverables makes many 'pm' really a 'tm' – team manager. Specialist managers of change can bring insights into how to make the journey through change easier otherwise accidental project managers and dedicated project and program managers need to add the organisational and people oriented skills.

A first factor in most changes is that its arrival is non-negotiable. Another is that mostly change is unwelcome and forced change particularly resisted. The insightful change manager can, hopefully communicate that what is always under our control is our response to change.

The Change Management Institute publishes a competency model whose 11 top level topic areas include: Facilitating change, Strategic thinking, Judgement, Self Management, Coaching, Project management, Communication et. al. Each breaks down to lower level components so for example Influencing includes Stakeholder focus, Professional presence, Networking and Interpersonal skills

Key Points

- Benefit delivery is inescapably the duty of the future business as usual's manager. Benefits are achieved through the operational people, possibly using new fixed assets but definitely following new behaviours. Someone needs to coordinate and integrate change through to stable operations. Best results occur when the BAU manager's steps up to managing change.
- A Specialist 'change manager' may usefully act as mentor and facilitator. When they become Change Manager in project management terms there is loss of certainty about who is accountable for the future, there are handovers [\[\[See Chapter 33 Ch 33\]\]](#) that are normally best avoided.
- Change is inescapably the BAU Manager's duty but
- Specialist assistance

See elsewhere in this book

3-5 other book chapters

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5 Predicting Emergent Trends in PM; We Can't say Where We Are Headed

When I was preparing to write this book I sought out a number of papers about project management's future; their common themes seem to me to have been "its big" and "more of the same". A point I wonder about the correctness of and a conclusion I think is wrong.

Uncommon themes said "if we want to understand the future we need to look at the past, then we may escape the fads of fashion"; a theme I hope is correct. The repeated academic theme was "project management has no theoretical basis". My suggestion on that one is "because no one previously has developed an explanation from the care of capital angle".

Nothing seemed to me to give an incisive view of an unfolding future. For example; checkout <http://www.nikoniko.co/>, I doubt it is the only app of its kind out there but it was the first of its type I became aware of (via twitter). Other dissimilar but relevant apps include <https://basecamp.com/>. Basecamp is a project control or coordination app. Niko is a team emotional health monitor!

Basecamp was the first project management app of any sort I used on a smartphone and now appcrawlr.com tells me there are over 500 more (admittedly the search relevance of some is tenuous). How many team emotional apps are there when you read this? Currently it is one for teams about 10 for teaching kids about emotions and one "Mobile Emotional Intelligence Test (MEIT)" which quote "enables us to evaluate...your external emotions" and has an inhouse "team of PhD researchers specialised in developing apps related to emotions assessment".

Project management depends on people. People's productivity and communications are affected by their emotions. All the people in projects have emotions and most people with involvement in our projects are connected close to 24hrs per day. The impact is huge. Two possibilities are obvious; always available can mean smoother flow of projects through all their steps and always in demand can mean burn-out, overload or distraction or just turn-off.

Its big

"Its Big" is an idea based on the assessment that 20% to 35% of global activity is project based. But project activity is like driving. Sure a lot goes on. A fraction of it is for its own sake. Mostly it is subsumed into higher goals. That is why [\[\[See Chapter 03 Chapter 03\]\]](#) defined success as return on investment. Is the future of project management like the past of the motor and the computer? After an early history of being visible they dissolve into the fabric of the world around us to be ubiquitous but also invisible.

I think 99% of project management dissolving into the fabric of business is likely and healthy. The direction in [\[\[See Chapter 4 Chapter 04\]\]](#)'s discussion of change being owned by the business, perhaps supported by a professional change manager trends in that direction. [\[\[See Chapter 02 Chapter 02\]\]](#)'s consideration of millions of people doing the accidental project manager role as part of the day job says the trend already flows in that direction. But much more I think that ubiquitous connectedness supports the growth in project management as a rounded skill set in everyday

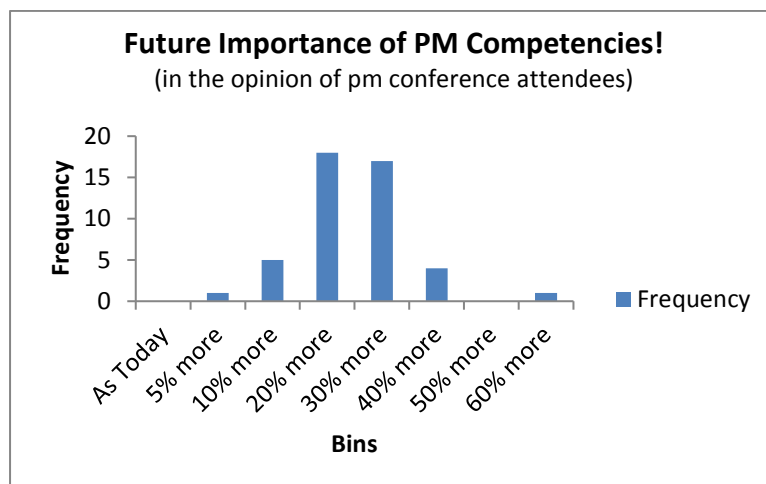
management rather than a growing tendency towards more and more specialists with a skill set that is an engineering off-shoot in schedule calculation.

I believe PM should be invisible. If encouraging cooperation and coordination to achieve results through others is a natural capability for 99% of the population then that leaves 1% to be specialists. In part a return to the pre-computer age whose emergence adopted engineering project management's assumptions. Pre computers ordinary business managers coped with continuity and discontinuity and that should be the future. Back to the future. But a very different future.

More of the same

Definitely not "more of the same"! The attendees at the 42nd Hawaii International Conference on System Sciences where asked the question "how will project management competencies develop over the next 20 years?" Those questioned were asked to define their responses versus the International Project Management Association's (IPMA's) ICB (International Competency Baseline). Unsurprisingly (to me at least) the result was that every one of the 46 categories was marked "Will be More Important".

The highest scoring category by a huge margin was the pretty meaningless word "Communications" while the opposite end of the spectrum's outlier by a mile was "Information and documentation". Are these not the content and a mechanism of communications? Could a less meaningful result have been found!?



Graphically the two outliers are the single items at the 5% and 60% mark. I hope the reality is that a whole raft of new competencies are central to project management role holders. Competencies that reflect facilitating people succeed. Competencies that reflect success in business terms not "some 'output' created at a time approximating a due date at a cost arguably what we said at the start".

Very Different

The very different context is our degree of connectedness. Unsurprisingly the literature tells us that shared mental models develop most quickly and are richest when team members have the most shared interaction. Historically maximum shared interaction has been achieved by being collocated. It is quiet possible, maybe even likely that web 2.0 and Enterprise 2.0 changes co-location as the

means of most connectedness. Creative commons as a licensing model will also have implications beyond those I can predict.

There is evidence that comments made electronically are more open than those made face-to-face and certainly electronic conversations are much more likely to run 24 x 7 x 52 than face-to-face ones. Within the Linux operating system and other open source IT communities the cycle time from discovery of flaws to fixes is often under 24hrs. A huge contrast to those IT products supported by paying customers! Free is much more responsive than commercial! HP and IBM both offer linux on their hardware.

None of my work colleagues from my first 20 years knew what my cats look like. Now thanks to instagram and facebook they all do. 10 years ago I'd never shared a status report via a specialised smartphone app like basecamp and a meeting with people on 5 continents was a novelty. This very day I have not had a telephone call involving less than two continents or a conference call involving less than three continents and cultures. Today's emails include correspondence with people at the heart of global standards setting activity made accessible by linked-in.

If we just consider apps like BaseCamp or teamwork.com for a few paragraphs the first noteworthy comment is that they are cloud based and mobile app accessible. They are equally available to project participants in every location and organisation. They are not on an intranet behind a firewall that makes participation inaccessible to key contributors. We should also note "it isn't behind a firewall" means what it contains is outside of at least one level of traditional corporate safety provision.

These apps allow the team to 'say hi' to each other with a profile and pictures and links back to personal web personas. Great for team building, great when the team members might not ever meet in a physical sense or may need to recognise unfamiliar faces perhaps rendezvousing at a building site.

Cloud based project apps provides all the PM as schedule engineering facilities that help (in some contexts) AND add a lot of the sociological facilities that help in ALL context. Control of change will change because interaction is what is needed to deliver and interaction is what all the factors above facilitate.

Not just document storage, document serving (a project control need we touch on when considering Configuration Management [\[\[See Chapter 31 Ch 31\]\]](#)) and version control but video conferencing and "How are we all feeling today?"! Connectedness will increase the degree to which feelings emerge in teams. That has to be a good reversal of the consequences of the industrial age.

Facilities for real-time discussions allow video rich media, to-do lists are sliced and diced by category, by person and or by due-date. A universal centralised calendar shows scheduled tasks and milestones and hundreds of integrated apps cover everything from preparing quotes during the project sales process through reporting and customer service support. Apps like this easily support smaller projects where interaction between people with their own area of expertise makes coordination important but there is a high degree of autonomy within work streams. They also scale.

Thoughts on Application

Truly I think answering 'where are we going?' is mostly impossible at present because so much that matters is in flux: project management is not fit for purpose in many of the organisations that need it to function well but a vision of what is needed is emerging, project manager as change agent or change agent with project skills is an appreciated mix. Communications that remove physical location while increasing degree of candour and connection leads to a richer debate about solutions. Connectedness made open source software like Linux viable and vibrant. Apps like nikoniko will make teams vibrant too.

So while the short and honest answer is "I don't know" I do know the 6th edition of the Guide to the Project Management Body of Knowledge will move towards a "coordinate and collaborate perspective rather than command and control". I do know a recurrent theme in one of this year's #pmflashblogs was "pm as stunted in p2 and pmbok-g is insufficient here is part of the fix". The extra connectedness, as a millennial workforce who grew-up concurrently multi-screened arrives [\[See Chapter 39 Ch 39\]](#) with 'Big Data' they will be empowered to tackle projects of greater complexity and or tackle projects with more speed.

Another short and honest answer to "how do I apply this" is read widely, trawl for ideas and trends, download the apps, try stuff, invite your team members to do the same reflect to your boss and customers that project management is about benefits and they are the drivers and recipient of the benefits. I would include chapter cross-references but it would be most of the rest of the book so the key focus chapters I'll suggest are [\[See Chapter 8 Chapter 08\]](#) for goals and [\[See Chapter 20 Chapter 20\]](#) for sponsorship.

Key Points

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6 Triggers & Ambidexterity; Bringing Change to the Organisation

The nature of change is that its arrival is often totally un-negotiable. It is the responses that we can select. How we act may be entirely discretionary.

Projects are typically a choice of action, not a choice to act. A project changes the world because of change in the world. Two things we need are a vision of the future and an internal trigger to start the change. The vision comes from our knowledge of who we are (in organisational terms 'mission and values'), our technical knowledge (Intellectual Capital) and will (Cultural Capital). The external trigger is the irresistible force. We need internal triggers for action from our people. That can be harder.

When I read the first paper I came across on Ambidexterity I wondered if it was a spoof (and for that reason I shall not itemise it). Partly because the language was so unnecessarily complex and second because it said right up front that using knowledge and gaining knowledge at the same time is impossible.

I was reading with project manager eyes. To me every moment of the project day is the use of knowledge and most of those same minutes are acquiring knowledge. Sometimes by encouraging people to interoperate, sometime by trying to make technologies interoperate, sometime just trying to find a way to make the world cooperate!

As I read on I realised "they are serious". The realisation was accompanied by a wish that they explained ambidexterity more specifically which is what I must do soon but also the discovery of a new way of looking at this aspect of the world that I was unaware of up to that moment. The observation widens my, and I hope your perspective on NPD – New Product Development – projects.

Ambidexterity is the twin capabilities to acquire and use knowledge. My view that the two activates are concurrent reflects the environment in a project. Now I realise my view that "concurrently is always the case!" can be quite different from the context the project's development activities deliver in to. The realisation should alert us that conscious attention is needed not just to the 'mechanical' configuration management processes of delivering the outputs but the anxieties and excitement that may arise in those whose norm does not embrace both search for and embracing of learning simultaneously within their routine activity.

Across the body of literature on Ambidexterity I discovered that the notion of using and acquiring knowledge simultaneously was described as incompatible because of the assumption that knowledge is gained in one of two ways; a separate research and development function or periodic switches of 'mode' from operations to development and back again.

These two models are apparently called Structural and Temporal Ambidexterity. The need for the modes is because the choice of how to allocate resources. I realised as I read their justification that in my words this is the Run the Organisation/Business (RTO or RTB) versus Change the Organisation (CTO) question! [\[\[See Chapter 18 Ch 18\]\]](#). In fact there are three named perspectives on how to create and introduce change. The R&D route equates to 'routine' New Product Development and is 'Structural Ambidexterity'. The mode shift applies to businesses that are "all stop to redefine ourselves". This is the 'Temporal Ambidexterity' approach.

Thus an R&D function does all development of new capability and then we might shut-down (part of) normal operations to replace the existing operation with what R&D has delivered.

The third form of ambidexterity is Contextual Ambidexterity. This is the form that seemed so obvious to me. The simultaneous use and gathering of knowledge. To me this is linked to in-process Learning From Experience (LFE) or Lessons Learned. At a project process level the scrum* world might describe contextual ambidexterity as within the purposes of a Sprint Retrospective; frequently look back and think how can we apply this forward?

(*scrum is a development life-cycle for controlling teams creating software [\[See Chapter 22 Ch 22\]](#))

At a business success level the scrum mechanism of a backlog (queue of requirements) that is scanned by the business representative every few weeks for “What to implement next?” is also applying recent learning to ongoing business operations. Of course we don’t need to be using scrum or developing software to use ‘contextual ambidexterity’.

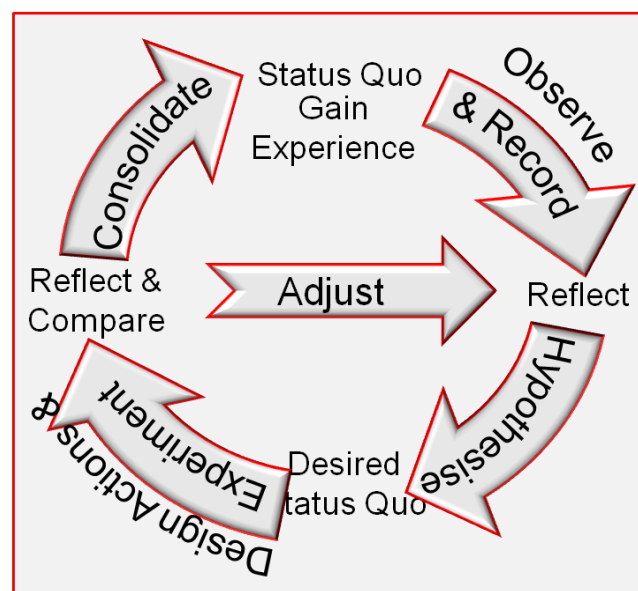
Learning Cycle

David Kolb’s observations and model explain a cycle of learning. Kolb’s model uses two axes to describe 4 quadrants. If learning is to happen the individuals and organisations must take a journey through 4 states or activities.

Amended from Kolb’s model © Simon Harris/Logicalmodel Ltd

The journey can start anywhere so let’s take a very project manager perspective of being busy doing stuff. Top Left hand quadrant. ‘Doing’ generates concrete experience

which, if we are wise we will Observe and record and Reflect upon. Reflection on what we observe allows us to extract or abstract some hypothesis of cause and effect which we can consider in relation to existing practices in order to Experiment with new approaches. What works is obviously good to Consolidate in future activities while causes of underperformance can be experimented with a view to refining, redesigning or removing them.



In “Organizational Ambidexterity: IBM and Emerging Business Opportunities” O’Riely, Harreld and Tushman quote studies that show that the average life-expectancy of US companies is well under 40 years. The most common survival duration is about 6 to 15 years! The key to survival is not size it is adaptability. Ambidexterity and bridging the challenge of the Knowing doing Gap.

Stanford professors Jeffrey Pfeffer and Robert Sutton’s book has exactly this title. They saw companies spend billions on training and consultancy without any resultant change in behaviours and practices. Knowledge does not become skill (Intellectual Capital?) without being combined with

a company's existing habits to modify the Cultural Capital or the 'Just How We Do It Around Here'. The search for JHWDIAH is the journey to project success in the stable and beneficial future state of business as usual (Could that be "S&BFSOBAU"? I think not! JHWDIAH* is an ugly acronym but it wins out). JHWDIAH must be our constant target See particularly [\[\[See Chapter 15 Ch 15\]\]](#).

*I prefer "JHWDIAH" because "B" is for "business" while "I" is for "it". Not all organisations are business' so "it" is more generic

Triggers

Much of this chapter has been occupied by the discussion of knowledge acquisition and application being either simultaneous, cyclic or concurrent in separate organisational units each of which is dedicated to either operations or research and development.

What ever the mode of gathering there has to be a trigger for applying. Triggers come in all sorts of guises. For IBM in O'Riely, Herreld and Tushman's paper it was a market place moving away from buying its core products; mainframe computers. A gradual drift makes finding a trigger point hard to pin-down. Charles Handy likened it to boiling a frog.

Pellegrinelli, Murray-Webster and Turner's "Facilitating organizational ambidexterity through the complementary use of projects and programs" show us a much easier trigger to generate action. They chart the fortunes of the mid-sized European bank as it sought to transform itself after the discontinuous change of the post Lehman Bros. global financial crisis. Sudden and dramatic changes of context are easy to respond to.

When we consider Complex Adaptive Systems in [\[\[See Chapter 16 Ch 16\]\]](#) we will talk of 'Attractors' as forces affecting 'Agents' and particularly of strange attractors as powerful but unpredictable triggers. Transferring the external pressures into action internally often requires an explosive force.

Analysis of IBM shows that for years they ignored very obvious messages about market place changes. Strange attractors are strong forces that break habits and create the fertile space for emergent solutions.

Thoughts on Application

O'Riely, Herreld and Tushman's study is focussed on IBM during its troubled time around the turn of this century. They note several factors aid Contextual Ambidexterity (which I'll paraphrase and merge with the other themes in this book);

- Construct staff's incentives ([\[\[See Chapter 17 Ch 17\]\]](#)) so they are long term and short term. Short term measurement systems are clearly easier to link to rewards! It is the longer term that needs focus.
- Link measurement and action (strategy) to the company's long term capital value rather than short term dividends
- Create and protect 'space' to serve both existing markets and develop tomorrows market. Perhaps full circle such that if either of Temporal and Structural Ambidexterity is used the other is also a must.

- Build the mindset to treat new markets as they need to be treated rather than as old markets. Perhaps central is allowing for a lack of established metrics, the need for entrepreneurship and mould breaking. If you don't and your competition do you at a disadvantage
- Take a portfolio perspective of Kaplan and Norton's Balanced Score Card approach that today's revenue funds the nurture of tomorrow's capability.

IBM's trigger point was less clear while the European bank's trigger point was much clearer. When action is triggered, however it is triggered the project (or program) that results is the application of knowledge. Be aware that the journey to success means those receiving as well as those delivering must understand the cycle of change or ambidexterity.

To extend a point already made; the change agent or project manager's role is to create shared mental models. The model of how knowledge is cycled into use is perhaps the most important.

Key Points

- Projects are increasingly used in operational areas where the view of the knowledge cycle may not be the same 'axiomatic' or 'obvious' view embedded in project thinking. The difference needs to be spelt out and reiterated until absorbed
- There are two pure perspectives on knowledge development and deployment; Temporal and Structural Ambidexterity. The third view is Contextual Ambidexterity which cycles what we discover into what we do on a continues basis.
- To be knowledge in use what we observe has to travel the cycle of understanding and meet a suitable trigger to overcome the inertia of the current status quo.

See elsewhere in this book

3-5 other book chapters

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7 VD & Benefits Definition SROI Aligning capital Transformation with Mission Values & Context

The Research

Every project management text you look at tells you that a business case is important. They all tell us the business case defines project costs and benefits. They all show us how to derive cost from a fully determined scope and fully resourced project schedule. None of the standard texts provide tools to determine the value half of the business case equation; the value piece is entirely missing.

It is a legacy of the ‘suppliers wrote the manuals’ theme we keep catching sight of. For suppliers ‘value’ is easy; “submit the invoice for the time and materials used or the agreed fixed price. Why would we need to say more on value?”

To fix the omission what we need are tools and techniques that allow us to express value in accessible forms. Then we can cost the various ways to capture that value then we can select the options with the most attractive profile of rewards versus risk. Mostly available guidance contains a lots of “you need to do this”, there is distinctly less of the “here is how”. Well here is how.

None of the standard texts provide tools to determine the value half of the business case equation; the value piece is entirely missing.
... Well here is how.

The evaluation of competing options is a capital allocation topic so a portfolio management or benefits management concern; above the project and the project manager. It is a project sponsor level topic. Without clued-up capable sponsors organisations always struggle to manage projects change. Project failure is first and foremost a sponsorship failure (some time that failure is by not replacing the project manager but that isn’t the main issue).

Value Is

Respected consultancy Mckinsey’s partner Tim Koller defines company valuation in the 840 page 5th edition of “Valuation: Measuring and Managing the Value of Companies” as “...determined by its discounted future cash flows. Value is created only when companies invest capital at returns that exceed the cost of that capital”. Koller says that “Value Based Management (VBM) ... aligns management decision making on key drivers of value.”

We might generalise Koller’s focus on cash-flows to say ‘benefits (however defined)’, flow from a focus on Value Drivers. When the organisation at all levels of Direct, Manage and Deliver [\[See Chapter 13 Ch 13\]](#) understand and focus on the organisations value drivers the achievement of value is enhanced.

Richards and Jones illustrate a long list of Value Drivers in their paper “Customer relationship management: Finding value drivers”. They started from the perspective that very little real value is traceable to many Customer Relationship Management (CRM) implementations so they looked for ways to measure the benefits and enhance benefit flow. They suggest that ‘Customer Equity’ results from Value Equity, Brand Equity and Relationship Equity.

The overall ‘amount’ of customer equity increases with delivery of seven core elements they say; 1) improved ability to target profitable customers; 2) integrated offerings across channels; 3) improved sales force efficiency and effectiveness; 4) individualized marketing messages; 5) customized products and services; 6) improved customer service efficiency and effectiveness; 7) improved pricing. These 7 elements are great example to us to generalise beyond CRM.

What we can say is that these Value Drivers define the potential targets for their CRM operations so they are the potential targets for their CRM projects. Richards and Jones long-list is two pages of value drivers culled from other sources and focussed on CRM but many translate to other spheres. When we identify Value drivers we are crystallising tests that determine what is aligned with the organisation’s mission and values [\[\[See Chapter 8 Ch08\]\]](#).

The value driver premise is that by listing explicitly for the organisation the answers to “How do we return benefits to our owners (the voting, tax-paying public or shareholders)?” we provide a checklist against which every portfolio component in the Run the Organisation and Change the Organisation (RTO and CTO) equation can be evaluated.

If we are a strawberry grower then perhaps our value drivers are earlier crops, longer shelf life, brighter colour, stronger smell. If we are a retail bank then immediacy of customer access to account information may be one of our drivers. [\[\[CC0 <a target='_blank'](#)



<http://www.flickr.com/photos/97235261@N00/16344017501/>>Koshy Koshy via [](http://public-domain.pictures/)

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Thoughts On Application

With an anchored, pragmatic and accessible definition of value a great deal of poor project change initiation is remedied. With project definition appropriately and repeatedly assessed at a portfolio level [\[\[See Chapter 27 Ch 27\]\]](#) benefits management becomes a natural organisational competence. As market place fashion and capability change over time the mis-alignment, omission or drift into irrelevance of value drivers become a means to steer the whole RTO portfolio.

How to use

Every organisation’s ‘C’-suite must know how the organisation returns value to its ‘owners’.

The Finance Director (FD) or Chief Financial Officer (CFO) should understand and be able to itemise where, how and when money arrives and leaves the organisation. The Chief Executive Officer or Managing Director (or perhaps Chief Operating Officer) should be able to express what the organisation does with the inputs of money and other resources and what the outputs are.

Between the full senior leadership team they should be able to say what the value streams are that the organisation is involved in.

Sometimes in larger organisations accessing the people whose finger is on the business's pulse is hard. A source of the required information for any mid-sized or larger organisation will be annual reports, strategy documents and company "About us" entries on web-sites. Other sources of value driver descriptions are submissions to donors, to funding providers, to lenders and to shareholders. In any small organisation the conversation is probably easier to facilitate directly. The conversation may have to be held on a divisional or geographic basis.

A subset of a public sector example is:

DRIVERS OF PUBLIC SERVICES
Health and Security
Provision/ Extension of medical service access (Acute & Chronic)
Public perception of personal safety on actually safe streets
Safe road usage
Domestic and Industrial waste disposal including recycling (Provision and Governance oversight)
Oversight of public interest standards for food (Wholesale, Retail, Restaurant) and Sale-Of-Goods/ Trading Standards
Community Well Being
Road capacities matched to traffic volume
Provision/ Extension of parks, gardens and public use spaces
Provision/ Extension of sports facilities (Swimming, Racket sports, Field sports, Athletics, Outdoor pursuits)
Culture, Arts & Social
Provision/ Extension of access to Arts (Libraries, Performing arts, Exhibitions, Museums, Galleries)
Fostering of Community participation and Inclusiveness
Education
Provision/ Extension of Pre-School care

Provision/ Extension of access to School, University, Vocational & Trade-based and Specialist technical education
Provision Extension of access for special needs: Sight, Hearing, physical & mental ability
Access to adult and continuous life-long-learning

Note these benefits are easily expressed even if not easily quantified. Clearly community participation and inclusiveness is desirable. Targeting the value driver can search for ways to archive the desirable aim. Quantifying and prioritising is another chapter's content [\[\[See Chapter 9 Ch 09\]\]](#).

Key points

- Identifying Value Drivers is comparatively easy and non-controversial. It is a powerful way to align the whole organisation. Intangible benefits such as social returns are as easy to include in the list as financial targets.
- Value drivers make the organisation's Mission and Values concrete for people at all levels of the organisational and in all relationships; employee, supplier, customer, regulators and auditors
- Value drivers split into roughly two categories which reflect two sorts of change initiative; those that grow the benefits received or those that reduce waste. Benefits growth is through more of the same or addition of the new. Reduction of waste to optimise efficiency is the territory of Lean and Six Sigma [\[\[See Chapter 22 Ch 22\]\]](#) 'improvement' projects.

See elsewhere in this book

3-5 other book chapters

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Real Options

8 M+MV → V (Targets) → DS & CET ← TP ← MS ← Teams

Market-place plus Mission and Values creates Vision equals Targets and Destination Statements and Change Exit Tests (Delivered by Tipping Points delivered by Milestones delivered by Team effort)

Reflection on the nature of projects quickly identifies that for the customer projects are a mechanism to achieve some aim. Now 'common sense observations' such as Stephen Covey's "Begin with the end in Mind" become useful and lead us to ask "What tools exist to help describe end-points?", What do we mean by the 'end-point' for surely every end is actually just a step on a journey and every journey just a step in a bigger journey?

Much of the challenge of projects is caused by a general absence of good tools for establishing clear definition of required business destinations. We need tools that help cascade end points from leaders to implementers in both development and operational roles. With appropriate techniques success is easier to achieve.

I doubt that the typical 'accidental project manager' [\[\[See Chapter 2 Ch 02\]\]](#) would gain much that would greatly affect project success rates by studying MonteCarlo* analysis but appreciating how to lead a team through the development of a shared mental model of end-point and solution development options contributes enormously to success.

(*Monte Carlo Analysis is a way of determining the probability of overall project duration and cost by assessing how the individual uncertainties of all task's costs and durations sum to a total.)

In the American Psychological Association's journal Vol 85, No. 2, p273-283 John Mathieu et.al explore "The Influence of Shared Mental Models on Team Process and Performance". Creating shared mental models is arguably the single unique element of the project manager's role. The Project Manager's role really is the one centrally focussed on creation of shared understanding. Of all the factors that contribute to success it is shared and agreed understanding that is the most important by a mile.

The first model we need is the one that answers where can we go? The challenge at this initial step is to translate company strategy to action. What we start with is taking the Mission plus Values and Value Drivers and the world around us and express it as 'vision' or 'objectives'. The terms mission, vision and values are used throughout the project management literature with fairly interchangeable and often in ways that create little true meaning. We must define them now and then use the definitions consistently from here onwards.

Mission; The enduring, more or less unchanging express of the organisation's purpose. For commercial organisations elements like "make a profit" are taken for granted while elements like "Provide vehicles for hire" or "feed the homeless" are often dressed in elaborate phrasing.

Values; Typically a list of adjective and aphorisms such as "Bold", "Cautious" "Adventurous", "Honest", "Develop others", "Challenge" that are intended to guide staff behaviours.

Value Drivers; Often missing. The value drivers express mission and values in concrete terms. They normally requiring a short sentence such as “Partner with our suppliers” or “Acquire property”. In [\[\[See Chapter 7 Chapter 07\]\]](#) I gave some examples.

Vision; The current objectives or targets for activities that interprets mission and values in the wider political, economic (etc) context of the organisation both externally and internally. When threat or opportunity means selected vision does not fully match current Run The Organisation activity then proposals for how to Change the Organisation create potential new investments. Objectives are potential investments each of which should be considered in the context of the whole portfolio of activity so the organisation maximises benefits [\[\[See Chapter 12 Ch 12\]\]](#).

When we use the techniques to explore the leadership’s vision the involvement generates motivation or ‘buy-in’ [\[\[See Chapter 17 Ch 17\]\]](#). The business (or sponsor’s) interest is the capability that will be brought into use to support the organisation’s Value Drivers [\[\[See Chapter 7 Ch 07\]\]](#). A useful description of an end-point is thus when the capability is embedded into the normal cycles of benefits flow and budgeting that marks ongoing business as usual. This end is not a technology release. The business’ real end-point is when creation of new habits means what was once objective or vision is now “Just how we do it around here”. When we have moved the business to a new business as usual it means benefits have starting to flow. We are on the path to payback of the project’s investment.

The idea of the ‘capability is embedded...in business as usual’ needs another perspective clearly stated; the target is achieved by a combination of people in roles following procedures and using equipment, raw materials and information systems to achieve some useful result. Development may be one or several work-streams and each has greater scope than is a traditional considered a project. The perspective is the portfolio is moved from run the organisation to run the organisation via change the organisation. Traditionally this scope of change is attributed to ‘programs’ [\[\[See Chapter 12 Ch 12\]\]](#).

Harvard professors Kaplan and Norton proposed an approach to balancing an organisation’s use of its capital across the portfolio of RTO and CTO when they published their book on the Balanced Score Card* (BSC) in 1996. The BSC has evolved since then through BSC 2.0 and BSC 3.0. During that evolution the concept of a Destination Statement has been added. Fowler and Lock identify a similar concept which they call a Benefit delivery test® and give it some specific properties. Steven Jenner calls the same thing an Evidence Event.

(*The ‘balanced’ is between short term goals of harvesting benefits and long term goals of enabling benefits in the future. The BSC measures tactical actions and strategic results across several domains such as company learning as well as financial results)

Benefit delivery tests

A Benefit delivery test is a very specifically worded test of the future business operation. For example imagine we wish to open a bakery. In operations bread might be taken from the oven and placed in the shop window. A Destination statement describes that end-point in a page or two. A Benefit delivery test uses a sentence or two and reflects Harvard Professor John Kotter’s maxim of

“See, Feel Change”. Benefit delivery tests often start “On specific date, in specific business context I see...”.

The test must be binary not graduated and behavioural not targeted. So “I see smiling staff serving happy customers” not “sales increase by 10%”. Fowler gives very specific reasons for all these stipulations that we will cover soon.

“I” in the Benefit delivery test’s phrasing is the investor or their nominated delegate. “See” may be ‘hear’ or similar but must be about a deliberate inspection in the operational context. To be able to see happy customers in the bakery example I must have in place knowledge of how to bake bread, some flour and yeast that are consumed in the production process so I must have suppliers. I must also have equipment such as an oven, premises and customers.

When planning starts the destination statements enable leaders to cascade vision or destination independently of solution design and in visceral terms. As the planning progresses the vision of the end-point will be fleshed out with relevant details. Each question that arises in planning is interpreted to support the organisation’s value drivers [\[\[See Chapter 7 Ch 07\]\]](#).

The chosen destinations may require coordination of two work streams but always the delivery of one. The always required work stream is the future staff behaviours one. This is the one overlooked in project literature and ignored by aglistas. Agile is a yet another supplier solution, a better product development approach in many contexts but still not addressing the business need in business terms. Future operations always needs operational staff’s behaviours. Only sometimes do objectives need new plant, machinery or other assets. It is the outcome that matters (and is itself just a step to some more distant future’s outcomes).

When defined the benefit delivery test is an expression of an “I’ll believe it when I see it” test that lies on the business’ current planning horizon. When we agree it then it is the target we work towards. Of course the horizon remains far-way but the target date for inspection of the required behaviours gets closer and closer as time passes. Before they are finalise Change Exit Test (CET) are circulated for challenge, acceptance and refinement [\[\[Ch 10\]\]](#). One important challenge is “is the achievement within the sponsor’s power and will to achieve”. There is no value in sending a project team into the development activities if they lack meaningful sponsorship [\[\[See Chapter 19 Ch 19\]\]](#).

The point of note here is everything is based on describing the business outcome (and next its value). We are not (yet) describing the potential solutions and their costs. We are Value Based. The approach continues by tracking that the outcome and plan remain relevant [\[\[Ch 26\]\]](#). We won’t declare success by having followed yesterday’s plan to a cost time quality target. Only when the plan’s steps match tomorrow’s target does a successful project equate to following a plan. In all cases it is the business destination that business as a whole must arrive at.

Thoughts On Application

A Benefit delivery test is the in-person witnessing of a demonstration of a fully integrated business operation ‘test’ that proves the change has been fully delivered. We have exited the change state and entered the business as usual state. The Change Exit Test has specific characteristics:

1. It is expected but not mandatory that it can be expressed and tested by “I will see...”.
- It is mandatory that when frozen it has an unmovable date, a no longer negotiable explicit state to be observed, a context for the observation, a person observing and a person delivering.
- The final requirement is it is outcome based and rigorously free of solution design. Pure ‘what’ without any ‘how’.
- The person commissioning may not be the person observing the Benefit delivery test (CET). In this case there will be separate record of who is accountable, who is responsible [\[\[See Chapter 20 Ch 20\]\]](#) and who is observer.
- The accountable person (the person who sets the Change Exit Test (CET)) expresses it in their own terms. Using business language and a binary ‘is/is not’ or ‘has/ has not’ test. For example “I see a happy customer leave our new premises with their purchase of a loaf of fresh baked bread”.

The Change Exit Test (CET) is describing a recognisable event in the future state of business as usual that is directly supportive of business Value Drivers. In later planning steps we will link the Benefit delivery tests forward to cash-flows (or social benefit streams) and backwards to milestones (MSs).

The lifecycle of a Benefit delivery test is that it is:

- Created

There are several ways to create Benefit delivery tests. The sponsor may dictate them (The Golden Rule; The person with the gold makes the rules). The Sponsor may invite other members of the organisation to propose Change Exit Tests, perhaps in workshops [\[\[See Chapter 36 Ch 36\]\]](#).

The proposals or workshops may create Benefit delivery tests either by crafting positive goal oriented Benefit delivery tests or by reverse engineering them from objections such as a “you can’t because...” starting points. Positive statements are easy for people whose world view is goal oriented but that is not everyone. For those who see a problem in every context rather than an opportunity an alternative technique works best – ‘Problem-Reflection and Reversal’ or ‘Transfiguration’.

- Socialised [\[\[See Chapter 10 Ch 10\]\]](#)

The Benefit delivery tests are circulated and clarifications sought and made and consequences noted and achievability debated. Achievement must be within the sponsors power to make happen within the challenges of real world constraints. Agreement forges a contract between accountable person and responsible person that make the accountable person’s duty to supply the Critical Success Factors [\[\[See Chapter 19 Ch 19\]\]](#) clear to all parties.

- Frozen

When agreement is reached or time runs out (time running at a constant rate seems to be one of nature’s unbending rules) the destination statement of the Change Exit Test’s text is frozen under formal and deliberately inflexible change control. The philosophy embodied is the date for

Christmas, your wedding anniversary, Ramadan or every other date met because we know the date is inflexible. Dates only flex routinely when we know that consequences are low.

- Delivered

The challenge to the delivery authority is achieve the Change Exit Test's state. When they have a 'solution, but I need twice as long...' then they don't have a solution. The challenge is a solution that meets the constraints. The challenge remains part way through project execution when the 'current plan' is recognised as deficient. The destination is inflexible but the how is entirely flexible. The renewed challenge is to be inventive and not reapply old scripts that do not meet the business' demands of today.

When ever solution steps out with the responsible person's authority are needed then the contract of accountability places the onus for action with the sponsor [\[\[See Chapter 20 Ch 20\]\]](#). Required actions are escalated to the source of accountability who acts or admits they set a challenge outside their own capacity to deliver.

Only at this point is change control used to adjust the destination statement's description. Recall the CET is 100% outcome and is entirely agnostic of the solutions (In reality constraints may muddy this attempt at complete clarity).

Recall that the definition of the Change Exit Test (CET) is a binary statement of behaviours; there are no numerical targets here and no unqualified relative terms like improve or reduce. The test is behavioural "A happy customer leaves the premises with fresh bread" because the benefits will arise from the corret behaviours but numerical targets often drive un intended behaviours.

Key points

The tool to express and cascade Business end-points is the Destination Statement or Benefit delivery tests. An expression of normal business operations in a futre that mixes market-place context with organisation missing and values

The Benefit delivery test's Change Exit Test (CET) is dated, contextualised, and binary. It expresses a end-point (what) but avoid expressing the journey (how); it is solution free. Exploring solutions is the job of the development team and a major opportunity to build buy-in [\[\[See Chapter 17 Ch 17\]\]](#).

Organisational layers often approximate Direct (develop strategy), Manage (manage operations or manage translation of strategy to tactics), Deliver (Operate tactical capabilities or implement 'tomorrow's capability'). The Cascade of Destination Statement, Benefit delivery test, Tipping-Point (TP), and milestone reflects the cascading of goals across the hierarchy

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9 The Value of the Value Case Is Part of the DSP

Professor Bent Flyvbjerg at Oxford University's Said Business School reckons a goodly number of business cases are outright lies dreamt up to sell politically biased opinion about public and company internal investments. In "How Optimism Bias and Strategic Misrepresentation Undermine Implementation" he says "Strategic misrepresentation can be traced to political and organizational pressures, for instance competition for scarce funds or jockeying for position, and it is rational in this sense. If we now define a lie in the conventional fashion as making a statement intended to deceive others, we see that deliberate misrepresentation of costs and benefits is lying".

Harvard professor Michael C Jensen shares similar opinions in the Harvard Business Review (HBR) when talking of the annual budgeting cycle. "Corporate budgeting is a joke, and everyone knows it. It consumes a huge amount of executives' time, forcing them into endless rounds of dull meetings and tense negotiations. It encourages managers to lie and cheat, low-balling targets and inflating results, and it penalizes them for telling the truth. It turns business decisions into elaborate exercises in gaming. It sets colleague against colleague, creating distrust and ill will and it distorts incentives, motivating people to act in ways that run counter to the best interests of their companies."

Jensen's HBR and other publications explain how numerical targets with attached incentives cause decision makers to move reports of performance backward and forward across bonus deadline dates. Jensen lays bare many cases of overall value destruction that increased personal bonuses. Exactly the opposite of what is wanted.

The root cause is specifying results (outputs) as numerical targets rather than specifying inputs in behavioural terms. In the previous two chapters we have introduced two concepts to address the above.

One is the Value Drivers technique [\[\[See Chapter 7 Ch 07\]\]](#). The Value Drivers list expands Mission and Values into concrete expressions of where the organisation's decisions can target value. For example "Reduce raw material holdings by negotiate Just In Time deliveries with suppliers" or just "increase uncommitted capital". It is value free, after all what we want to do is maximise benefits not stop our efforts at a plateau value.

The second is the Destination Statement and Benefit delivery tests (or "test/ Change Exit Test"-Tests) [\[\[See Chapter 8\]\]](#). The destination statement is a word picture of the future [\[\[Need to check permission on D&G Rich Picture\]\]](#). The Benefit delivery test is a dated binary test of staff behaviours in the post project operations context. It describes the new business as usual. It too is value free. We still want to maximise benefits.

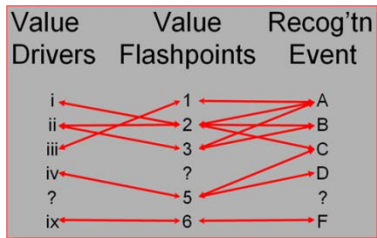
Targeting input behaviours short-circuits much of the output based gaming of the system that drives the toxic behaviours that Flyvbjerg & Jensen document.



Thoughts on Application

Fowler's suggestion in "Accelerating Business and It Change" is that we think forward from the Recognition Event or Change Exit Test (CET) by carefully cross checking them against all the value drivers for what he calls the Value Flashpoints® (VF). The result is a many-to-many relationship of target behaviours to value streams. So far we remain solution free and wholly value focussed.

Finding solutions is a later activity [\[\[See Chapter 11 Ch 11\]\]](#)



A value flashpoint is the event at which benefit can be indisputably observed to be in flow. Perhaps for the earlier bakery example it is "I take cash from the customer" although a better formulation would be "I match the monthly bank statement to the management accounts and see a margin of revenue over expenses".

Fowler's prescription is that we estimate [\[\[See Chapter 28 Ch 28\]\]](#) each flashpoint's start-point and possible development in size under pessimistic and optimistic assumptions and with allowance for historical performance. A business benefits equivalent to agile team velocity or earned value's performance indices*.

(*Velocity and performance indices are the ratio of planned achievement to actual achievement delivered. They provide an empirical, in context correction factor useful for prediction of actual outcomes at current performance levels).

The development project's target is to enable behaviours. The containing change-program's target is the post development operational implementation of the behaviours. The management of benefits asks Kaplan and Norton's Balanced ScoreCard questions; "Are we implementing our tactical actions?" and "Are we seeing our strategic indicators improving through a likely pattern of value building upto the future steady state?"

[[VFTABLE]]

RUMMIDGE - VALUE FLASHPOINT® TABLE																			
ID	NO	REF	VALUE FLASHPOINT®	FIRST INCIDENCE (Start of Value Stream)			LAST INCIDENCE (Value Stream at full volume)			HIGHEST POSSIBLE			LOWEST POSSIBLE			ESTIMATE LESS RISK AND DOUBLE COUNTING			
				Date	Who will observe	Context (process)	Date	Who will observe	Context (process)	Data sources	Summary of calculation	Ref's to	Assumptions	Total £m	Data sources	Summary of calculation	Assumptions	Total £m	Best estimate
4	1		REVENUES																
4	1		I read the monthly Financial Report and it shows an increase in receipts from congestion charges following extension of zones and following the increase in charges adjusted to align with Manchester's charges	21/10/09	Finance Director and Business Manager	Monthly review of Financial Report	21/10/09	Finance Director and Business Manager	Monthly review of Financial Report	Reconing study App 5	2007 charges 750k. New zones 50% extra = 750pa. Charges increased 50%	nc, charges do not cause reduction in traffic flow. No delay in implementation	Increased charges do not cause 20% reduction in traffic flow. Implementation	£1.25	Reconing study App 5	2007 charges 750k. New zones 50% extra = 750pa. Charges increased 50%	Increased charges do not cause 20% reduction in traffic flow. Implementation	£0.25	£0.25
5			HEADCOUNT COSTS																
4	6	11	I read the monthly Financial Report and it shows a reduction in employment costs following a reorganisation which has capitalised on process re-engineering following from the introduction of the new call centre	21/10/09	Finance Director and Business Manager	Monthly review of Financial Report	21/10/09	Finance Director and Business Manager	Monthly review of Financial Report	nc, employee data file 2006-2009 New TCM organisational chart	5 staff out in 11/09 @ 25pa = 52k + 20 staff reduction from 04/10 = 500pa x 4 = 2m	Staff cost (mode) = 25k inc oncosts 5 staff out 11/09 = 15 from 04/10 attrib to call centre. ROI period = 2005-2014	nc, employee data file 2006-2009 New TCM organisational chart	£2.05	20 staff out in 08/10 @ 25pa = 25k. Programme delayed 9 months. 20 staff reduction from 04/11 = 500pa	Staff cost (mode) = 25k inc oncosts Programme delayed 9 months. 20 staff out from 08/10 attrib to call	Best estimate 136 x 70% allows for historical risk of non-realisation in Rummidge	£1.80	£1.80
24			TOTALS											£15.05					£17.05
25			Value Flashpoints beneath this line have been consolidated or are otherwise withdrawn																
5	1		I read the monthly Financial Report and it shows an increase in receipts from congestion charges following the increase in charges adjusted to align	21/10/09	Finance Director and Business Manager	Monthly review of Financial Report	21/10/09	Finance Director and Business Manager	Monthly review of Financial Report										£0.00

In [\[See Chapter 29 Ch 29\]](#) we will examine how knowing the business destinations and linked expected benefits flow removes lots of dark-art nonsense from managing project (tactical) and business (strategic) risk.

Value Case

The sum of the benefits in the value streams is the Value Case. Where the benefits are quantifiable as money then they are easily expressed as a discounted cash flow as McKinsey partner Tim Koller would approve of [\[See Chapter 7 Ch 07\]](#). The value case is a part of the Business Case. Other components are the cost calculations that arise from the chosen candidate solution (when we get to that bit of planning [\[See Chapter 11 Ch 11\]](#)). The Business Case is a component of the overall Decision Support Package (DSP). A DSP supports portfolio decision makers [\[See Chapter 12 Ch 12\]](#) direct the organisation's resources [\[See Chapter 18 Ch 18\]](#) to potential investments in future benefits and exploitation of current capability. Coosing between the RTO run the organisation and CTO change the organisation is deciding the questions of Ambidexterity [\[See Chapter 6 Ch 06\]](#).

Steps

- Create the Destination Statement with relevant stakeholders, perhaps via framing workshops [\[See Chapter 36 Ch 36\]](#).
- Express the destination in business terms with test/ Change Exit Test tests (Benefit delivery tests).
- Cross check CETs to Value Drivers to ensure all business outcomes have value aligned to mission and values as well as checking all sources of value have actions behind their delivery.
- For each value stream assess its dependency of Change Exit Tests and its likely benefits profile.
- For each Change Exit Test assess the value streams it supports.
- Record appropriately in the Decision Support Package assessed by portfolio decision makers charged with governance responsibilities to the organisation's owners.

Take-Aways

Investment decisions are made by looking across the portfolio of Run The Organisation and Change The Organisation's demands on resources and their contributions to results.

The activities and contexts that contribute value are Value Drivers. The occurrence of new behaviours delivers an event in a value stream. The event may start revenue flowing inwards, may end a cost stream or be the point at which an inward cash- or benefits-flow peaks or something one-off.

The Value Case is the collection of assumptions and formulae attached to each Value Driver affected by the investment's activities. Buildings, plant and machinery have no value until they are used. Use requires new behaviours. New behaviours may be possible without new physical assets with just changes in attitude, beliefs and relationships.

The behaviour changes are what affect the value streams and the behaviour changes are evidenced by the Benefit delivery test's test/ Change Exit Test-test. In any specific change the change's value is the aggregate of changes it makes in total to the organisation's set of value drivers

See also

Other places in the book

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10 Do Your Nemawashi To Crowd Source Socialised Solutions

When the organisation is presented with an adaptive challenge, either threat or opportunity it is the leadership's duty to take action. Some leaders set goals autocratically and some invite participative debate [\[\[See Chapter 36 Ch 36\]\]](#). In either case delivery by the whole organisation requires understanding, commitment and the design of candidate solutions. Similar considerations apply when a bottom-up initiative needs consideration.

The challenges divide in two; handling the emotional reaction to imposed change [\[\[See Chapter 11 Ch 11\]\]](#) and sense checking the challenge set. We will deal with sense checking here.

In [\[\[See Chapter 8 Chapter 08\]\]](#) we discussed the use of Balanced Score-Card's Destination Statements and Fowler's Benefit delivery tests. Now we will add a Japanese concept called nemawashi (根回し) or at least a westernised parallel. Nemawashi is one of the 12 pillars of TPS (Toyota Production System). It is the process of "laying the groundwork" and gathering support.

Fowler's procedure is 'socialisation'. Socialising the benefit delivery tests circulates the Change Exit Tests that describe the future state of business as usual amongst key stakeholders. Socialisation invites challenge and refinement prior to the business leadership team 'signing-up' or 'checking-out' [\[\[See Chapter 11 Ch 11\]\]](#).

Sign-up is a two way commitment to achieve the desired business operational state within the date constraint or to challenge the Critical Success Factors [\[\[See Chapter 19 Ch 19\]\]](#) required to achieve the Change Exit Test (CET). The leader defining (or agreeing) the benefit delivery tests is challenged that achievement is within their political and resourcing capability and within their will to focus and accept escalations. Expression of accountability is being publicly explored [\[\[See Chapter 20 Ch 20\]\]](#).

As Change Exit Tests are circulated and discussed we effectively source the wisdom of crowds to identify 'devil in the detail' such as contradictory aims or pet objectives that don't align with mission and values. The socialisation process is building the leadership team's shared mental model of the organisation's future before we divert resources to achieving it.

Indeed socialisation starts and may conclude before we design how to achieve the agreed future although clarity of "what" starts the exploration of "how" [\[\[See Chapter 11 Ch 11\]\]](#).

Thoughts On Application

The tools and techniques in use are outside those in 'common' standards of project management written from a schedule optimisation basis. They provide concrete means to explore possible futures, provide participants with context to explore their feelings, raise objections and eventually commit (or not).

This is a shorter chapter than many but is perhaps more important than all the others for success.

- Define a view of the business destination that responds to threat or opportunity. The definition may be from or to sponsor but ultimately has to be publicly committed to by them.

- Invite significant stakeholders to create and critique Change Exit Tests that describe the organisation when it has arrived at 'JHWDIAH' (Just How We Do It Around Here)
- Remove benefit delivery tests that not aligned to Value Drivers
- Reword those that not behavioural, remove numerical targets and relative terms such as "improve"
- When debate of the table of destination events stabilises freeze its definition under strict change control.

The purpose here needs us to consider project execution. The purpose is to ensure escalation of issues within the development team to the sponsor to ensure that Critical Success Factors are in place. Only when the sponsor admits achievement is beyond their will and ability are Change Exit Tests amended. Our guiding principle is the destination has value and any route to it is acceptable.

The philosophy is a major departure from 'common standards' where supplier thinking enshrines actions planned when we knew least about the challenge in Statements of Work, Work Breakdown Structures and then doggedly executes them all the way to unrecoverable failure.

As the table of destination tests is stabilising the inevitable envisaging of solutions is occurring in parallel (Perhaps within Kick-Off and Design Workshops [\[\[See Chapter 36 Ch 36\]\]](#)). Planning from the Change Exit Test (CET) at the strategic level is best done right to left by back casting [\[\[See Chapter 13 Ch13\]\]](#)

Key Points

Drivers for change emerge top-down; external pressures demand adaptive change and drivers for change arrive bottom-up; technology enabling something new. In all cases sharing of the ideas that compete for resources [\[\[See Chapter 18 Ch 18\]\]](#) allows the 'wisdom of crowds' to refine suggestions, allows challenge to sponsors true commitment and starts the emotional adjustment process that leads into motivation through involvement [\[\[See Chapter 36 Ch 36\]\]](#) and [\[\[See Chapter 37 Ch 37\]\]](#).

If the Critical Success Factor, including, crucially the sponsor's attention and action are not in place then the basic arrangements for success are not in place either.

Know where we are headed before planning and then do not follow a plan doggedly (but do continuously target the desired end point).

See elsewhere in this book

3-5 other book chapters

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11 Change Marketing Socialisation Messages - Spread the message

Most of us dislike change. I suspect all of us violently dislike impending, non-negotiable change.

The delivery of change initiatives has long been known to be difficult. A favourite quote of mine is 500 years old. Published in 1515, by Machiavelli it identifies that losers from change fight vociferously from the outset while winners need to be well past the winning post before they are likely to be active allies in delivering change.

“Those who by valorous ways become princes, like these men, acquire a principality with difficulty, but they keep it with ease. The difficulties they have in acquiring it arise in part from the new rules and methods which they are forced to introduce to establish their government and its security.

And it ought to be remembered that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new. This coolness arises partly from fear of the opponents, who have the laws on their side, and partly from the incredulity of men, who do not readily believe in” new things until they have had a long experience of them.

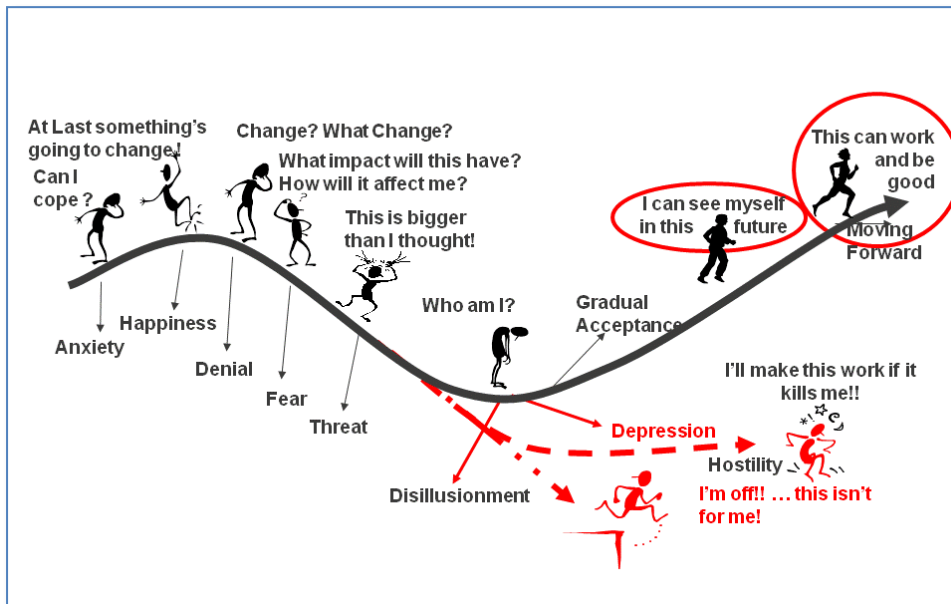
Thus it happens that whenever those who are hostile have the opportunity to attack they do it like partisans, whilst the others defend lukewarmly, in such wise that the prince is endangered along with them.”

Professors Turner, Anbari and Bredillet’s analyses of project management ‘schools of thought’ identify one that is the “Marketing School; the project as billboard” They suggest via reference to several other papers that “This school focuses on the identification of stakeholders and client needs, stakeholder management, formation of project organizations, interactions between clients and contractors, and internal marketing of the project to the organization. Research also addresses marketing the project to its customers”.

To often a project initiative arrives with a stakeholder community unannounced and at precisely the time we need collaboration of the widest group of people we create resistance. It is naive to fail or even stumble in this way.

John Fisher’s “Process of Personal Change” curve shows us the cycle of emotions that people pass through when faced with non-negotiable change. It is similar to the grieving process described by Dr Elizabeth Kubler Ross’ research. Dr Ross’ 1969 book identified the response to death of a loved one as “Denial and Isolation, Anger, Bargaining, Depression and Acceptance”.

[[Ed What do we need to do to seek Permission?? (NB there is a 2012 update to the image below)]



Another model that paraphrases Dr Ross's stages in a business context describes the phases as SARAH or Shock, Anger, Resistance, Acceptance and finally Helping. The message in SARAH is that faced with imposed change people in general react first with shock and then anger because of what they perceive they will lose.

The anger is directed at the source of the change and caused by the immediate regret about what will be lost. Professors Amos Tversky and Daniel Kahneman have shown that the strength of reaction in regret of loss is much stronger than our attraction to the prospect of gain. We don't like to give up what we have!

Perhaps because we imagine the loss more easily and regret it immediately. Imagining the gain is much harder. This is where socialisation of benefit delivery tests helps a second time. In the last chapter we saw socialisation with the management team tasked to deliver the business results challenging the sponsor now we should explore socialisation with the widest community.

To recognise that there are advantages in designing and building a new future takes time and imagination and realisation of what the personal benefits will be. Harvard Professor Dr John Kotter's 2011 Harvard Business Review article "Before You Can Get Buy-In, People Need to Feel the Problem" reflects a central theme in his famous book "The Heart of Change". We can summarise it in three words that align well with the techniques we are exploring over these current few chapter; the three words are "See, Feel, Change".

A vision of the future triggers feelings and feelings create commitment. When needed the commitment then finds the data to 'rationally' or logically support the emotionally committed conclusion. We fit the data to the answer! Change Exit Tests provide the vision in advance of arriving at the future state. They are a powerful tool in the project marketing tool-bag.

To help the 'grieving' process along towards Acceptance and Helping we provide those affected with verbal imagery of the future state. In [\[See Chapter 10 Chapter 10\]](#) we saw the Japanese word for

the process of consultation and consensus building (Nemawashi 根回し) and in [\[See Chapter 8 Chapter 08\]](#) we described a means to paint pictures of the future world with destination statements and the Change Exit Test (CET) of benefit delivery tests. In facts destination statements are best supplemented (or even replaced) with Rich Pictures and videos. After the vision is available time and reflection on available benefits helps most people to adjust to imposed change. Then they actively look for ways to secure the benefits [\[See Chapter 16 Ch 16\]](#) and [\[See Chapter 17 Ch 17\]](#).

Adjustment is particularly likely when people are given the freedom to design their response to the change. Socialisation of the envisaged destination helps achieve acceptance at all levels of the organisation; we are all 'Agents' in the same Complex Adaptive System and all influenced by 'Attractors' [\[See Chapter 16 Ch 16\]](#) and [\[See Chapter 17 Ch 17\]](#). Recall the benefit delivery test's Change Exit Test (CET) describes the destination with value not the route to it. We still need to discuss designing the route [\[See Chapter 13 Ch13\]](#).

Thoughts on Applications

Next time you impose or are involved in imposed change to the work environment (or even at home!) think through the steps of grieving. Describe the end-state (using Evidence/ test/ Change Exit Test/ Benefit delivery tests).

Expect initial, immediate resistance, agree and commiserate about the losses. Allow time for the immediate reaction to dissipate before attempting to move on. Allow the grieving.

Then ask for suggestion of future benefits; seed the discussion with your own personal benefits if helpful. Not as "here is what you get..." but as "what is in it for me...what do you see in it for you?".

When those affected can see benefits ask for help and advice on how to achieve the required end. As personal advantages and benefits are identified agree and reinforce the gains that will result.

Key Points

The steps run "Shock – What? No way!", "Anger – Whose stupid idea was that?", "Resistance – We will lose, I won't let that happen", incubation is then followed by "Acceptance – but it does mean..." and finally Helping – "suppose we...?".

Start with a vision of the end point in outcome terms and constraints. Omit solution steps. Allow time between exposure to the trigger and discussion of the resulting actions

Buy-in is easy. You only have to know the steps to achieve it (but we have not covered them all yet).

People don't like change, they need time and support to transition through the grief and SARAH steps. When you trigger change and nurture the transitions harnessing the energy of those who can make it happen will result naturally.

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12 Changes within Changes And of All Sorts of Shapes and Sizes of Projects

We are armed with our definition of success **[[See Chapter 3 Ch 03]]**: viz “returns a benefit” and specifically “to the investor”. We are in position to explore another vexed question whose roots probably lie in engineering and IT’s history. There is much debate about the similarities or differences between project and program.

Lately the word ‘portfolio’ has also been added to the vocabulary in a confused manner by mostly being quoted as “Project Portfolio Management” or PPM.

In “Foundations of program management: A bibliometric view”, Artto, Martinsuo, Gemünden and Murtoaro ask “Are programs just scale-ups of projects, or do they represent something unique?”. They conclude “our results largely confirm Lycett et al. [13] in that programs cannot and should not be treated as scale-ups of projects”.

Lycett and co. found two misconceptions that they say increase the tensions between project delivery and achievement of organisational strategy. The two widely held misconceptions are: 1) the idea of program as a large project and 2) the idea that a one-size-fits-all approach to programs is appropriate. The tensions arises because programs should deliver strategy so should take a wide and emergent view while extant ‘common standards’ have an excessive control focus and insufficient flexibility to track evolving business strategy..

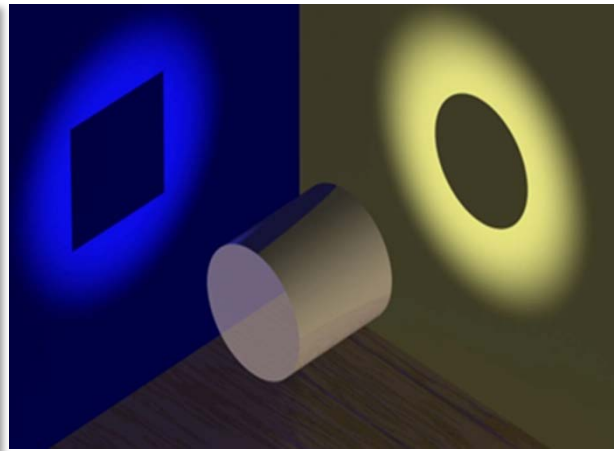
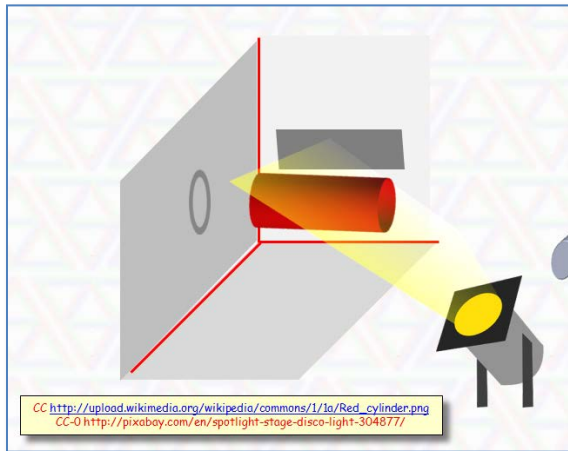
A project is a transformation of capital from one form (money, skill, will) to another (will, skill, buildings, procedures, systems, supply chain customer base and maybe more

The confusion over programs arises for several reasons; first in some industries the historical usage of the two terms was and remains identical. Defence ship building uses the term programme for the production of a single (admittedly big and complicated) deliverable like a destroyer.

Classically “a unique transient endeavour to deliver a well defined output” is a project. By classical definition then each destroyer is a project; that vocabulary just is not the long standing industry norm. Here the common-lingo is that each ship is a program and so is the whole collection to be built.

Classical, or perhaps I mean textbook definitions of program typically reflect some aspect of benefits arising from interdependency between the projects. Building a fleet is thus not a program on these terms. Each ship is stand-alone. The build activities are not interdependent to deliver extra benefits (except maybe some learning from experience between first and last of the ‘production run’). In fact the set of ships is a portfolio of projects. Same supplier, same labour pool, same customer but otherwise separate.

Existing project management guidance has been written by suppliers so understandably their world-view’s nuances affect every aspect. Project and program become confused when suppliers try to differentiate project and program in terms of control structure*. Disentangling the terms is easy if instead we start with a perspective focussed on continuity of capital.



*Einstein said approximately “You can’t solve a problem using the thinking that created it”

[[I don't have © on the good image]]

There is in fact a hierarchy of changes within changes that runs from top to bottom:

The portfolio contains

- Capital being used for business as usual (Run the Organisation) and
- 1. Capital being transformed (Change the Organisation) via projects and brought into use by programs
 - Within the programs within the portfolio are projects
 - Projects divided into...
 - both stages or sprints and phases, within them may be
 - Cost or Control Accounts, Within them...
 - Work-Streams and or Work Packages and within them...
 - activities, tasks or jobs.

If you need further granularity then I don't have vocabulary to offer but I'm sure you can suggest locally relevant terms.

Portfolio

Portfolio is a simple term to define. By playing the academic game and selecting appropriate sources I can 'prove' (a?) this truth. A good one might be Harry Markowitz 1952 Nobel prize winning ideas in “Modern Portfolio Theory (MPT)”. MPT is a capital markets investment theory that aims to maximise returns at a defined level of risk (or minimise risk at a defined level of return). Exactly what every enterprise the delivers goods or services seek to do across their collection of Run the Organisation (RTO) and Change the Organisation (CTO) activities. The portfolio is the total collection of capital under management. Note I'm not repeating those 'project related' standards that Lycett and co found to be damaging. I'm expressing a replacement definition by drawing from other disciplines.

Another good definition might be in Ross Garland's 2011 paper for the then owners of the PRINCE2® project control structure; TSO (Now Axelos) "Capital investment governance: The integrated governance of projects, programmes and portfolios". Garland says "Capital investment is the commitment of money to purchase assets. This paper defines capital investment governance as the organizational framework that enables effective capital investment decision making.". We could take the portfolio to be pool of assets purchased.

THE portfolio is all the uses of all the available capital within an organisation. The highest level portfolio may contain lower level portfolios. The is more we need explore about access to various types of capital and the constraints it places on capacity. See [\[\[See Chapter 18 Ch 18\]\]](#)

What Is A Project?

Project has also struggled for a long time to sit comfortable with a definition. The pervasive supplier perspective is "a temporary endeavour undertaken to creates a unique product*".

*Glossary of the Guide to the Project Management Body of Knowledge, Project Management Institute 2012, ISBN 978-1-935589-67-9

The standard ones like this are all pretty unsatisfactory to anyone but a contractor whose benefits arrive via an invoice at development's end. . Output is explicitly distinguished from outcome. Outcome is defined as the results of using the output. So what we have above is a 100% supplier perspective. A definition that is actually counter to investor interests. Counter because te divide between output and outcome forces a hand-over. Handovers are discontinuity. Discontinuity is almost always a source of trouble. We will explore handovers in [\[\[See Chapter 33 Ch 33\]\]](#). It amazes me that the flaw in understanding is trumpeted as a virtue.

There are however many other ways to describe project that better represent everyone's interests. A good candidate imho is "A Decision Making Structure".

Project is easy to define in the context of portfolio and capital. A project is the collection of activities to transforms capital (ie delivers change).

At its simplest a project converts money into new buildings and machinery and trained people and a queue of customers – Or maybe this is several projects; one that delivers a building, one for the staff training, one for the machinery, one to attract new customers. Whether one project or several we now have a self-sustaining meme that generates revenues that pay suppliers and employees for materials and labour and returns interest and dividends to bankers and investors and or expands the capital.

From the capital perspective the complete journey is 'the whole transformation of potential (that is transformation of capital) from an old steady state business as usual to a new steady state business as usual'. The question is do we refine project to this scope or define this scope as program?

In common use 'Project' is an old term whose heritage coming from suppliers and IT leave it with a restricted definition as covering just the development cycle. We need a term for the wider system of

activity. Here is where 'program' emerges as a term to add to the mix. Recall the research findings are that program as widely used is a mis-defined term.

Program

Having defined project from a rather parochial view point early authors faced both a problem and an opportunity; their term didn't match reality in all circumstances that matter; there is opportunity to sell the extra services beyond project. Here is the opportunity for suppliers to provide outsourcing services for the activity to execute the product/ deliverable development cycle and services to transition from project end (output) to a restored state of smooth business as usual (outcome).

Precisely the whole duty of care that was the standard role of 'Managers' before post world war ii's emergence of the 'outsource change to an (IT) PM' view from popular (read widespread) 'standards'. Was it the need to justify selling a wider service as something extra or the recognition that 'the project' was not equal to 'the whole need' that lead to 'popular' definition of program that starts as "a collection of projects" and then splinters into many qualifying statements like "that are transformational" or "that return a benefit not otherwise possible" or "that are strategic in nature"?

The problem created is that if we have two names (project and program) then surely they must need differentiation? When suppliers attempt differentiation they do it from their familiar and comfortable perspective of control. From the control perspective project and program are not two different entities. Successive 'standards' writers have struggled to describe a difference. The manufacturing of difference where there isn't one has created confusion.

Where there is a difference is in their breadth along the timeline. A project transforms capital; for example money is turned into a building (fixed assets) and trained people (cultural capital). This activity is after the portfolio decision about where to allocate resources (capital) and before the activity to integrate buildings, machinery, people into the new form of settled and stable Business as Usual.

Program is the whole journey. A program, contrary to common definitions only needs a minimum of one project. A Project always needs the activity before sanction and after development (or acquisition) that is brings deliverables into use. A project not within a program is adrift from releasing benefits.

Recap

The definitions and relationships between Portfolio, Program and Project are thus:

- A portfolio is all our uses of capital
- A program is the total collection of activity from pre project steady state business as usual to post-project steady state business as usual
- A project is a transformation of capital from one form (money, skill, sill) to another (will, skill, building, procedures, systems, supply chain customer base and maybe more).

All Sorts of Shapes And Sizes

Dvir, Lipovetsky, Shenhar and Tishler observe for us in “In search of project classification: a non-universal approach to project success factors” that many writings on project management seem to search for a universal theory of project management when clearly projects come in a vast array of size and characters, are conducted in a vast array of different cultures and with a vast array of targets and success criteria.

Dvir, Lipovetsky, Shenhar and Tishler’s analysis lead them to identify many factors bearing on project type such as complexity of scope and technological uncertainty. We might add distinctions such as “is the project in response to opportunity or threat”, “is the customer’s market-place stable and predictable or volatile?” Is the developers familiarity with the products long and experienced, state of the art or bleeding edge?

Recognise that a mechanical engineering project that constructs an oil rig is vastly different to a pharmaceutical project running a clinical trial and both are very different from a software development project. Conducting a school building project in New York is vastly different to building a school in an African village.

Our engineering project may run under an EPC contract or an EPCM contract. An EPC contract (Engineering Procure and Construct) is one where the contractor performs to a lump-sum price to supply a ‘turn-key’ final solution. An EPCM contract may look similar in terms of initials but “Engineering Procure and Construction Management” is an entirely different risk profile.

Thoughts On Application

Some elements of project management are the same across all instances of projects. Adopt (and adapt) the tools that ‘travel’ between contexts. For example to build shared mental models. Always envisage and share the vision of the future operational environment throughout the journey.

Many elements of projects are entirely context dependant and different; know the ‘local’ norms but crucially know how to challenge those like the definition of program or the scope of project that may be hampering rather than contributing to chances of success. Project management is different within every industry because the industry’s economics are different, the vocabulary is different, norms and so cultures and ‘style’ are different.

Lastly travel broadens the mind. Find out how other industries do their projects and copy the best you find.

Key Points

- Projects are not all alike but all have elements that are alike. To successfully transform capital requires selecting a ‘product development life cycle’ that is matched to the problem or opportunity [\[\[See Chapter 22 Ch 22\]\]](#).
- We also need to select one or more control cycles that is/are matched to the one or more development cycles required [\[\[See Chapter 22 Ch 22\]\]](#).
- Selecting appropriate product development and project control cycles is, as Dvir et.al.’s paper and our [\[\[See Chapter 3 Chapter 03\]\]](#) “What is Project Success Is A Debatable Answer”

state dependant on who is judging against what success criteria. Thus we must be able to define success [\[\[See Chapter 3 Ch 03\]\]](#).

Key Points

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Further Reading

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13 Layer Upon Layer Back Casts From Value's Definition - Backcasting & Decomposition

We plan much of our domestic lives back from fixed events such as birthdays and national holidays. Instead of forecast planning we backcast plan. It makes sense to us in our personal lives to set goals and work back through the actions required to arrive at today. To paraphrase Danish philosopher Kierkegaard “we live our lives forward but we understand them with hindsight”.

The world of the senior leaders, the ‘C-suite’ also runs backwards. Customers and owners want things by some future point which is assigned a date without consideration of engineering’s view that the world runs left to right across the calendar. Business’ set targets and use calendars right to left.

Strategy’s view of time is the opposite to developer’s. Successful Project Manager’s understand this and facilitate business success.

The form of planning from future events to today is Back-Casting. Backcasting seems to have been first defined by Robinson who references work by Amory Lovins. In “Energy backcasting—a proposed method of policy analysis” Robinson writes “The major distinguishing characteristic of backcasting analysis is a concern, not with what futures are likely to happen, but with how desirable futures can be attained. It is thus explicitly normative, involving working backwards from a particular desirable future end-point to the present in order to determine the physical feasibility of that future and what policy measures would be required to reach that point.”

Professor Sisto and Drs Prosperi and Lopolito’s presentation “Participatory backcasting: A tool for involving stakeholders in long term local development planning” say Backcasting involves “1) development of desirable images of the future (visions) 2) A backwards analysis of how these visions can be realised...[then] identification of obstacles and milestones and strategies and actions...”. Note the title is participatory. Backcasting and its cousin decomposition are tools to build SMM (Shared Mental Models [\[\[See Chapter 2wo Ch 02\]\]](#) and [\[\[See Chapter 32 Ch 32\]\]](#)). Best archived via workshops [\[\[See Chapter 36 Ch 36\]\]](#) and [\[\[See Chapter 37 Ch 37\]\]](#).

For project success at the investment level Backcasting is a useful tool to add to the armoury. It dovetails well with the forecast planning technique that applies to scheduling work to meet milestones. Backcast from the future through Benefit delivery tests® (CETs) [\[\[See Chapter 08\]\]](#), thought Tipping-Points (TPs) [\[\[Below\]\]](#) through Milestones. Backcasting CETs and TPs also fits well with the Complex Adaptive Systems/ Complex Adaptive Leadership [\[\[See Chapter 16 Ch 16\]\]](#) approaches required in complex and agile environments. Cascading and expanding Direct/Manage/Deliver oriented milestones helps us link the fractal like layers in Russell Ackoff’s structure of Purposeful Systems within and made-of purposeful systems.

Key enabler events

We know author Malcolm Gladwell defines a Key enabler event as “the moment of critical mass, the threshold, the boiling point” in his global best selling book of the same name. A key enabler

event is the moment a combination of pre-requisite conditions align that then ensure that an outcome is inevitable.

Gladwell's explanation of how key enabler events arrive in human endeavours involves three ideas;

- the Law of the Few (the 20% who will drive the change to happen),
- sticky messages (memorable messages with impact) and
- thirdly context which we might subvert as 'timing' or making your own luck by focussed preparation or practicing Kim and Mauborgne's "Key enabler event Leadership".

The 'Few' involves people with one or more of three qualities;

- mavens (they have a message to share),
- connectors with the strength of "weak ties" (they know lots of people), and
- salespeople (persuaders, charismatic people who adept at influencing others).

Kim and Mauborgne explain Key enabler event Leadership in their 2003 Harvard Business Review OnPoint article. They observe that "In any organization once the beliefs and energies of a critical mass of people are engaged, conversion to a new idea will spread like an epidemic." Change managers need to engage the right few people with the right sticky message and the right rewards.

Key enabler events in backcast planning sense are the points at which the social preparations for new business behaviours meet their technical (if any) pre-requisites. Now we start the adjustment to gaining 'new operational habits' that as they mature will be "just how we do it/business around here (jhwidiah)" [\[\[See Chapter 15 Ch 15\]\]](#).

Decomposition

Back-casting is a time view that creates what Alan Fowler's "Accelerating Business & IT Change calls "imaginary hindsight". The hindsight focuses on the future state of business as usual to be created and the back casting brings us to milestone. Each backcast milestone is a binary mark of achievement that is recognised by the creation of a project deliverable. Deliverables are outputs with acceptance criteria that include a trained staff member, template terms of business and sales process, a circuit board design or website design, a ship's hull, or the whole ship complete with swinging Champagne bottle.

Decomposition breaks deliverables whether services or physical items into component parts with product standards and acquisition (buy or build) standards. Each identified component is a Configuration Item [\[\[See Chapter 31 Ch31\]\]](#). The attachment of standards is Quality Planning and crucial to the ability to estimate [\[\[See Chapter 28 Ch 28\]\]](#) and track status [\[\[See Chapter 23 Ch23\]\]](#). The first step is the creation of what p2 calls a Product Breakdown Structure and agile approaches like scrum call a Product Backlog.

Continued decomposition cannot useful continue to atoms and electrons so stops at the point the team treat an item as 'atomic'. Now we share a model of the steps in the acquisition life-cycle (either {specify and tender... integrate and deliver} or {design, build...deliver}). Decomposing products by their life-cycle generates a Product Oriented Work Breakdown Structure or a kanban's generic process flow.

The only meaningful way to use decomposition is in workshops. The technique's purpose is to build a shared mental model within the team of the deliverables that when integrated into operations at the Key enabler events will lead with inevitability to well socialised Benefit delivery tests and onwards to measurable benefits flows.

Decomposing/ Backcasting end-states is a business strategy led activity. Decomposing through timing points is a business management led activity and decomposing from milestones starts with a business operational lead and ends with technical architects and acquisition (buy or build) subject matter experts.

Thoughts On Application

The integration of backcasting as a technique amongst those throughout the book (you will only have visited all the themes below if you are reading non-sequentially or for a second time):

- The influences of PESTLE* factors as drivers of change in the market-place (or society at large) plus mission and values creates candidate visions that enter the portfolio kanban backlog [\[\[See Chapter 18 Ch 18\]\]](#)

*Political Economic Social Technical Legal & Environmental factors.

- The investment appraisal committee select initiatives as capacity versus work-in-progress allows ('When there is an empty card available on the portfolio kanban board).
- The vision is expressed in Destination Statements and Benefit delivery test® test/ Change Exit Test tests [\[\[See Chapter 08\]\]](#) which are socialised to start the psychological processes of adjusting to change, to invite challenge and for refinement. Initial socialisation focuses on the Tipping-Point leader's key people of influence from the Law of The Few.
- Each Benefit delivery test is analysed (decomposed) for the few (typically three or four?) significant happenings that make its achievement inevitable; the point at which momentum towards achievement has reached a self sustaining energy level.

These key enabler events are 'of the business'. The behavioural interaction between people and other actors or agents; the 'nodes in the ANT network' and agents in the CAS system [\[\[See Chapter 16 Ch 16\]\]](#).

- Each Tipping-Point (TP) is analysed (decomposed, backcast) for the few (3 or 4?) Milestones that mark the completion of outputs from social work-streams and if required technical work-streams.

The '(technical) output shipped' milestones have historically been regarded as the end of project management's interest because the technical stream's end is the end of the engineer's development steps. (Sadly guidance such as p2 explicitly blinkers its proponents to this limited perspective☹).

- Back casting continues by decomposing milestones (which are signals of "output delivered") through p2's Product Breakdown Structure or agile's product backlog [\[\[See Chapter 13 Ch 13\]\]](#).

The ease or not with which we can do this step will suggest the more appropriate product development and development control lifecycles to use [\[\[See Chapter 21 Ch 22\]\]](#).

The probable reliability of the estimates [\[\[See Chapter 28 Ch 28\]\]](#) in the development baselines and eventual investment success will be proportional to the attention paid in this step to Configuration Item Identification [\[\[See Chapter 31 Ch 31\]\]](#), Quality Planning [\[\[See Chapter 31 Ch 13\]\]](#) and choice of both product development lifecycle and project control approach.

- Back casting continues by decomposing outputs across the tasks in their whole life-span and particularly their development lifecycle. Useful tools are the Work Breakdown Structure, but not as described in 'the' most widely printed piece of 'common' guidance.

Somewhen in the steps above the Benefit delivery tests are embed into the business' committed strategy and published to owners, stock and political analysts and partners.

The forecast planning steps familiar to engineers and the iterative approaches of agile development teams can now work forward with left to right scheduling of solutions that are accepted or rejected based on their ability to honour the benefit delivery test's frozen and unyielding business mandated inspection date.

The rejection of an otherwise technically acceptable solution because it does not meet the business' economic constraints should be common sense! Experience proves that historically it has been a rare occurrence during planning when it is cheap and easy. Rejecting a chosen solution during development execution when it proves inappropriate is even rarer; Kahneman and Tversky's Nobel prize winning regret in operation again! Technician's philosophy it seems is all too often 'follow the existing plan to predictable failure'.

The WBS (or code ready users stories) should identify work-packages or tasks or activities before we then workshop (or sprint plan) sequencing of tasks with precedence diagrams, flow-charts or kanban workflow boards.

In parallel with activity and dependency modelling we really should determine resource needs and task durations. Note material needs and task effort are engineering calculations but task and project duration is a political choice that results from resource allocation and prioritisation of senior management team's time allocated to decision making.

The preparation for the political implications of resource diversion from RTO to CTO and senior focus is an important element of the nemawashi [\[\[See Chapter 10 Ch 10\]\]](#).

[\[\[XX Be good to have a succinct illustration\]\]](#)

When we discussed the Change Exit Test (CET) of the Benefit delivery test we insisted they have delivery dates assigned. Further I said that the delivery date is socialised for comment but once agreed is frozen. What is important to note here is the back cast and fore cast processes are expressing business target and technical (and social) solutions that meet the needs defined. We are explicitly banning a technical conversation that starts "I have a solution and it can't be done in that time" In business terms it is not a solution..

When the conversation moves to "I have a range of approaches to meeting milestones with different characteristics of time, cost, performance" the business can formulate choices based on the affect on Tipping-Points (TP) and Benefit delivery tests.

Key Points

- Backcast the market plus mission and values to vision or destination statement
- Backcast destinations in Benefit delivery test/ Change Exit Test (CET) terms to tipping points
- Backcast key enabler events to milestone
- Forecast plan development activity to meet milestones. Discard approaches that don't satisfy business constraints. If no business compatible solution can be found then escalate the issue **[[See Chapter 20 Ch 20]]**
- Backcasting and Decomposition defines tomorrow's goal in terms of today's task

Key Points

See also

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14 Time is Deep not Long – Scheduling

The great challenge during times of change is to coordinate people's contributions. Activity always has dependency. Dependency can be on predecessors and or on availability of resources whether skills, fixed assets or materials.

Juggling all the factors to achieve coordination is the focus of scheduling. Scheduling is a cross-roads topic. We have lots of themes to introduce before we can combine them.

Complexity Theme

Complex projects [\[\[See Chapter 16 CH 16\]\]](#) are complex because the dependencies between cause and effect are hard to identify and or understand and or manipulate. One tactic that helps deliver complex projects is to create interfaces so that the ripple effect of uncertainty or ideas and decisions cannot spread unconstrained.

Two other needs are caused by creating interfaces;

- 1) the vital need to establish communication paths to enable people to coordinate information exchange of ideas across group boundaries [\[\[See Chapter 35 Ch 35\]\]](#),
- 2) handovers at interfaces need verification activities that check “process_1’s” outputs match “p_1’s” inputs plus process specification and “p_2’s” expected input specification.

When we need to define “where we can go?” and “how we could get there?” then the appropriately used techniques of leadership, inspired by understanding controls based on Complex Adaptive Systems can harness the power of the coherent crowd. Properly harnessed ‘emergence’ will solve complex problems. Encouraging interaction among a wide variety of perspectives leads to emergence from serendipity (happy accident or making your own luck) [\[\[See Chapter 16 Ch 16\]\]](#). Manufactured luck solves problems and it solves them in ‘Deep Time’.

When the team members can work in parallel to use deep time then duration is compressed. Parallelising work increases the coordination effort. if we attempt to cling to a command to control structure then it becomes impossible for the Change Manager to stay in control. We need to exploit the fractal like nature of a goal as it decomposes across the layered hierarchy of Direct, Manage, Deliver [\[\[See Chapter 8\]\]](#) and [\[\[See Chapter 13 CH 13\]\]](#) and [\[\[See Chapter 16 Ch 16\]\]](#).

To achieve useful deep time requires a few preliminary and terminal steps that are the necessary parts of team building [\[\[See Chapter 32 Ch 32\]\]](#).

DSM (Design Structure Matrix) Theme

Projects create results; bottom line.

Creating or acquiring then integrating and implementing the project's products* means coordinating the efforts of those people working in each ‘technical work-stream’ within the investment's overall journey to future business as usual.

(*technical, tangible and soft, behavioural)

Our project management activities to coordinate everyone's contribution must meaningfully model what people do and how they do it. Backlogs and breakdown structures, Kanban boards and Gantt charts are all helpful models. We need correlation between project control's models of work and output and the technician's models for creating those results. After all we are all focussed on the same GateWay control points **[[See Chapter 27 Ch 27]]**; Do we know where we are going?, Do we know how to get there?, Are we making progress enabling the benefits?, Are the benefits in flow?, Are we now in business as usual?

Design Structure Matrix or DSM is a systems engineering tool that supports steps in engineering design in a representation that perfectly matches project management's use of Breakdown Structures, Precedence Diagrams and RACI charts as well as 6σ SIPOC*. An understanding of DSM and the project management tools will help cross discipline working.

*Six Sigma's tools Supplier Input Process Output Customer is an interface modelling tool useful for over-viewing touch-points between processes.

[[Ed I have not sought permission to use this picture and it needs replacing with something that makes further explanatory words unneeded]]

Both Design Structure Matrix and breakdown structures rely on the technique of decomposition to identify the component parts of the results to be delivered. DSM then moves on to analyse how best to logically or physically group things. DSM allows analysis to pursue questions such as where to define interfaces in the technical architecture, How to divide work across teams, how to partition work for scheduling to recognise the need for iterative work or to avoid out of sequence working. Anything that helps determine interfaces and division of work helps determine where handovers and verification activities are vital.

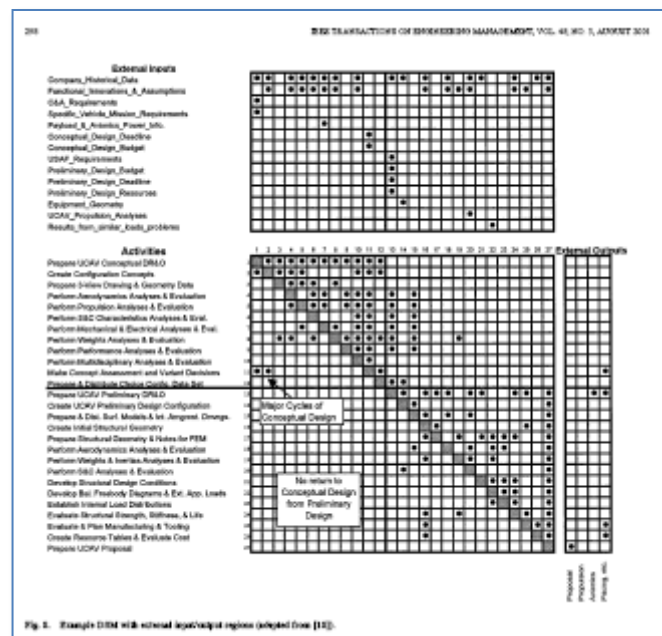


Fig. 8. Example DSM with external input/output regions (adapted from [18]).

Both Design Structure Matrix and breakdown structures answer questions for Configuration Management **[[See Chapter 31 Ch 31]]** about Configuration Item Identification and both allow for regrouping of atomic elements in ways that suit the currently required analysis perspective. In project terms grouping is sometimes wanted by phasing sometimes by cost allocation. In product realisation the grouping that is useful might be weight allocation or electrical power distribution.

DSM is increasingly supported by software tools.

Scheduling Theme

Scheduling determines what is inter-dependant and what is in-dependent. The target, limiting case is isolation of just the technical dependencies from all the other types of dependency. Technical dependencies are mostly determined by the laws of physics. Other dependency types are mostly imposed by people on a basis of prioritisation and preference. One sort of dependency is un-negotiable the rest are all political.

Tools Theme

The arrival at dependencies is the cross-over point at which project management (at least at the ‘mechanical’ level) meets all other involved disciplines. The result is that every discipline has a tool-set that serves the same purpose. In process improvement it includes the SIPOC*, in systems engineering the DSM* and flow-chart, in project management the RACI* and precedence diagram. Multiple ways to model the same decision making options.

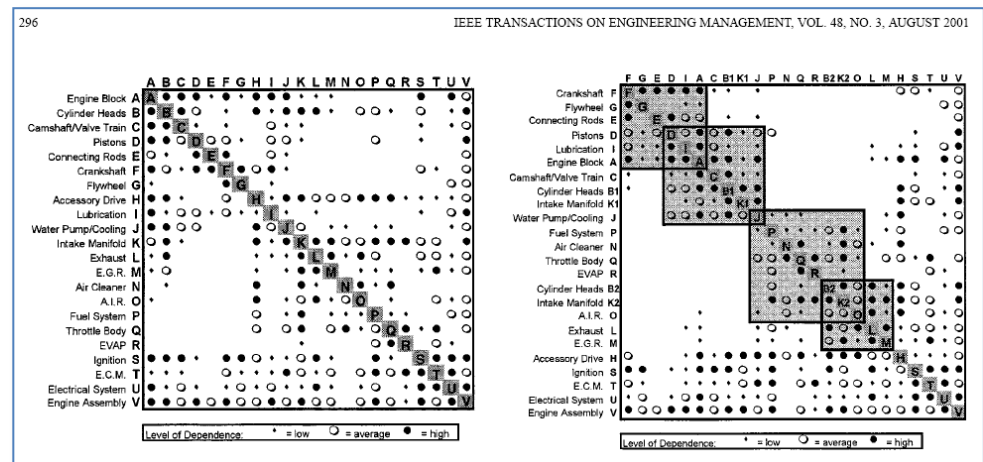
(* SIPOC is Supplier Input Process Output Customer, RACI is Responsible Accountable Consulted and Informed. Consulted and Input are really synonyms as are Informed and Output while Accountable and Responsible **[[See Chapter 20 Ch 20]]** are “for a Process”. DSM is Design Structure Matrix which models Inputs and Outputs shared between Processes! – DSM is suitable for a number of modelling tasks. Indeed DSM neatly shows us that (purposeful) systems make up (purposeful) systems and are themselves made of (purposeful) systems. But then so does SIPOC and so should RACI and precedence diagram).

[[Ed I have not sought any permission to use this picture – It needs replacing with something simpler]]

When we model steps with inputs and outputs we match every

step’s outputs to be some other step’s input (or we should remove the output as unneeded and if there are no needed outputs we should remove the step too). Linking steps to steps is modelling the coordination needed. Building the decision data based on the un-negotiable dependencies onto which we can then layer the negotiable dependencies to arrive at a technically and politically possible schedule.

Not only is scheduling another of the challenges that benefits when we can construct Shared Mental Models but we have to share which modelling tool to agree on! We should see this as opportunity to foster understanding. If as an engineer I can work in the comfort of the Design Structure Matrix and



see the one-for-one correlation to the precedence network then (hopefully) understanding and acceptance are boosted.

A schedule that is technically and politically achievable bridges engineer's acceptance and includes the sponsoring business leaders' commitments to the constraints of benefit delivery tests such as inspection date, implied resource and personal focus commitment needed.

The Collaborative Scheduling Theme

When the scoping of work by backcasting and decomposing is easy because we 'know what we are doing' then scheduling in project management terms is also easy if we know how to use precedence diagramming techniques. Precedence networks are trivially converted to Gantt charts – probably the most ubiquitous mental image people have of project management. The engineer's tools that map sequences very well include the flow chart; an equally valid, easier to use and more flexible tool.

Which ever tool your team selects the best approach is still to perform dependency modelling in collaborative groups using sticky notes and walls (or windows - notes stick better to glass). A myriad electronic alternatives exist. Any that encourages dependency modelling as a solitary activity damages the chances of the team's success. Any that create collaborative simultaneous development of model and team spirit enhance chances of success.

Two problems can arise in scheduling. Both of which are helped by defining interfaces. 1) we may not know the steps to develop the result so plotting dependencies is impossible 2) the 'team' needs to be at a size that allows for a conversation. The first point benefits from interfaces because any solution that honours the interface is acceptable so big problems are chunked into small problems by interfaces. Interfaces add a 'the bits are not the system' problem. DSM can help here.

The second point determines the balance between level of detail and breadth of the final scope at which we discuss the dependencies. George Miller's famous 1956 paper for Psychology Review "The Magic Number Seven Plus or Minus Two:..." suggests an optimal team size is between 5 and 9, optimal number of concurrent 'bits of stuff' to consider is 7 ± 2 etc (but see references).

A third problem is an opportunity; if we all know different tools to model dependency then we need to pick one. The opportunity is that we can choose the modelling approach best suited to the problem as seen by the team. The scheduling challenge is the place where discipline specific skills and project management (mechanical scheduling) skills should converge. Understanding dependencies allows all team members to appreciate how to reinforce each other's contributions.

Integration

When the models of the decomposed results are built then opportunity for parallel execution of the tasks to deliver the elements can be identified.

As the development work delivers intermediate results in parallel so integration of elements (combining of what was decomposed in the model) is needed. In product terms the role falls to configuration managers or lead engineers or architects. These are delivery of milestones. In

operational staff terms the duty belongs to the managers of the future day-to-day business as usual. In overall team terms the business change manager is the role with the integrative duty.

The commonest parallel work streams that need integration are the technical deliverables and the social or behavioural deliverables at the key enabler events. Here is where our accidental project manager from [\[\[See Chapter 2 Chapter 02\]\]](#) has great advantage. Otherwise coordination and smooth handover with all the concomitant challenges is vital.

From Dependency to Schedule – Resource Constrained Durations

Backcasting is the business planning from objectives to today that builds a strategic route-map to which everyone is invited (and expected) to crowd source their ability to contribute [\[\[See Chapter 10 Ch10\]\]](#). When we backcast we discover the Tipping-Points (TP) & Milestones that deliver our required future. Each milestone is a point of achievement in a work stream and each Tipping-Point is the achievement of coordination across several work streams. Reliable milestones occur in plans that target well understood events identified within well understood development processes. Tactical planning of the steps within well understood processes is normally done by forecast planning.

To be in control of meeting business targets for schedule as baked into benefit delivery tests it is necessary to layout action in a map that recognises time's flow in both direction and rate. Any of the tools such as DSM, SIPOC or precedence diagram show 'physical' dependency. The precedence diagram allows for addition of duration information and the assessment of the resource profile required if we are to deliver in deep time. The maximum deep time is the opposite to resource constrained durations.

At this point in the planning activities 'standard' project management software and the standard guidance of PMBoK Guide chapters on Time and Cost Management tell us all we need to know about the 'mechanics' of schedule development, critical path and float calculations and Monte-Carlo simulations*. All this is trivially redrawn as a Gantt Chart or placed on a kanban board. When we get to development execution of tasks in a schedule the Gantt chart is excellent at communicating status versus expectation. Gantt charts are great reporting tools. They are rather limited and limiting when used as the start point of planning.

Start Steps

[\[\[Ed this would be a great buying hook for a browsing potential customer if formatted as a flow-chart with commentary to the side\]\]](#)

A wall, some sticky notes and the precedence diagramming technique is an effective way to create the shared mental model of dependency. Here are the steps:

- As a group decompose goal to product [\[\[See Chapter 13 Ch 13\]\]](#), products to sub products until no longer usefully divisible (Product Backlog and Product Breakdown Structure (PBS) are two accurate and well known names for the result of this step. One from Agile and one from PRINCE2)

- As a group decompose each sub-product's life-cycle into the steps that overlap the team's duties [\[\[\[See Chapter 13 Ch 13\]\]\]](#).

It is sensible to call this a Work Breakdown Structure (WBS) "a hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables". PMBOK-Guide 5th Edition".

We should arrive at the initial work structure resulting from the activities so far to identify the contents of the Product Breakdown Structure "A hierarchy of all the products to be produced during a plan." PRINCE2® Manual. The first WBS might best be described as a Product oriented Work Breakdown Structure (PoWBS).

- Including the step immediately before and the step immediately after the team's scope of involvement is useful for context. A development team and a future operational team will share two steps in common; one on either side of their boundary interface.
 - As a group (are we a team yet?) When the decompositions are as deep as is useful each discipline should lay-out their tasks as a linear sequence from the event that marks their work stream's start to their end. It will be useful to mark phase boundaries but isn't required at this stage.
1. It is likely that the team's members will have a high degree of clarity about a small subset of the products or process steps shown in the breakdown structures. For example the procurement folk will know some aspects of organisational defined process that must be followed while (say) heating engineers will know all about installing air-conditioning and boilers but not electrical supplies but they will recognise when in the work-stream their progress is affected by whether or not water and power are available and the need to approach suppliers to submit tenders.
 - As each group lays out its work-stream so the in-stream scheduling dependencies are made explicit.
 2. As well as in-stream each work-stream's external dependencies are made explicitly. An external dependency may be either an enabler of something else or dependency for some input or state before being able to move on.

Key Points

- Arriving at the state where the team can schedule their interdependencies means when have to have clarity of what we want and how to deliver it. A Complex Adaptive Systems approach can be a useful way to spark the emergence of solutions. As they crystallise schedules can be developed. The scheduling can be managed as an emergent result within sprint planning meetings, all up-front or entirely dynamically by pulling cards from Kanban backlogs.
- The dependency modelling tools of different disciplines are all useful for facilitating the building of a shared mental model of the required coordination.
- Planning (scheduling) is something the project manager facilitates the team to do themselves. Involvement equals understanding and buy-in

See elsewhere in this book

3-5 other book chapters

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Further reading

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"Using the Design Structure Matrix to Plan Complex Design Projects". Capt. Norbert Doerry, USN <http://www.doerry.org/norbert/papers/DSMandComplexity-final.pdf>

<http://www.dsmweb.org/> includes tutorials, links to commercial and research tools and community links

PSM32 a DSM development tool and tutorials. Don Stewart 1981
<http://www.problematics.com/default.asp>

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<http://www.asapm.org/articles/TheBreakdownStructurePt1.pdf>

"The Breakdown Structure PART TWO: Getting It Right: Concepts, Principles, Processes and Matching Vocabulary ". Simon Harris, American Society for the Advancement of Project Management
<http://www.asapm.org/articles/TheBreakdownStructurePt2.pdf>

Other scheduling techniques

- Kanban
- Scrum
- Scrumban

- Critical path
- Critical chain
- Drum-buffer-rope
- Line-of-balance(Linear Scheduling Method)

Top

15 Implementation & beyond - Taking Knowledge Into Use Building New Habits

According to Schema Theory what you do this week will be largely what you did last week. How you greet people, the words you use and the sentence structures that you use will all be the same as last week. What and how and when you eat each day will be guided by your existing scripts. Jean Piaget developed the schema theory of learning. As a child you developed a schema or scripts. Now when a fact disagrees with your script you will distort the fact rather than change the schema!

The first patterns we learn are the interactions with our parents. Eric Berne's 1964 book *The Games People Play* explores that 'we' learn patterns of behaviour or scripts as transaction in three states; Parent, Adult and Child. 'We' refers to individuals and to groups. When a pattern of behaviour exists in a group it is often called culture as in Company Culture or Identity as in National Identity.

Big Data is the correlation of snippets of information. When a loyalty card's transaction list shows someone at your address purchased a pregnancy test you become a very interesting target. Long established schema just might be about to experience an irresistible external force for change. If you browse a website maybe a link to baby cloths will be of interest. The first nappy/ diaper company to attract your purchase likely has your business through all your future offspring. A strange attractor in [\[See Chapter 16 Chapter 16\]](#)'s discussion of the elements of Complex Adaptive Systems.

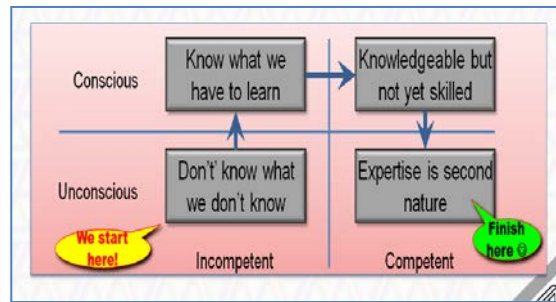
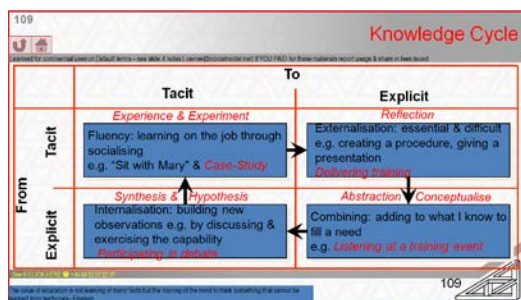
When projects just build artefacts like office blocks or new drugs then the historic view of projects as endeavours that stop after creating outputs neatly segregates sub-contracted development teams from the much harder issue of changing people's behavioural habits. Plus a new office block with new employees can grow its own schemas.

When projects introduce organisational change to an existing culture where there are existing shared schema then we have the roots of many project stresses. Existing schema have to be destroyed (or at least adapted). Kurt Lewin coined the phrase "Unfreeze, Change, Refreeze". The fastest way and most effective source of an unfreeze is a disaster and the easiest organisational disaster is the 'corporate re-structure'. When projects exist in post 'melt-down' contexts then existing schema have already been destroyed.

Only when artefacts are combined with action (behaviours) are benefits possible. The challenge at implementation includes the fostering of fresh habits to supplement or replace old habits. The organisation as a whole must cross the 'knowing-doing gap'. The knowing doing gap is explored by Stanford professors Pfeffer and Sutton in "The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action". We might turn introspective here and take you, the reader, as a case-study.

Thoughts On Application

Compilation of this book has surveyed a huge range of topics expressed in many sources. Each of those sources is the explicit expression of knowledge that to be used must become implicit (skill) [\[\[See Chapter 40 Ch 40\]\]](#). Implicit knowledge or skill is capital; potential to deliver value [\[\[See Chapter 18 Ch 18\]\]](#). Potential value emerges at at least two levels; your individual, personal level and your organisation's shared perspectives. When skills are used routinely in habitual behaviours the organisation has achieved a benefits flow that is JHWDIAH (JHWDIAH = Just How We Do It Around Here).



At the level of JHWDIAH the shared and tacit knowledge are cultural capital, organisational

schema.

For the project team itself tacit shared knowledge is the enabling condition for teams to function. "Hit the ground running" can only happen if the group is a team [\[\[See Chapter 32 CH 32\]\]](#) with a shared mental model of each other, of procedures, of end-points, of solution development steps and of control mechanisms (operational and or project). Description of the journey through the steps to unconscious competence is attributed to Noel Burch (& See References).

The benefits in operations arise when the operational team of people have cultural and intellectual and physical and financial capital.

Your personal journey to achieving benefit from reading this book requires taking at least some of the book's contents into use as tacit skill (or you may as well stop reading right now!). Almost certainly the 1,500 words per topic average mean that enabling success requires following up the keywords in each section through searches of Google scholar or your favourite equivalent search methods. As your exposure to the explicit builds understanding and hypothesis then you need to move around the quadrants of David Kolb's Learning Styles from reflection to conceptualising to experimenting and refining until you have a new working patterns (scripts) that you rely on [\[\[See Chapter 6 Ch 06\]\]](#).

The questions are "what, if anything will you add to existing behaviour patterns?" and "Why will you?" It is inevitable (and reasonable) that you will reject or ignore stuff I share with you. That is to be expected and accepted. Our world views are different. You should also recognise the truth of Einsien's observation "It is what I already know that stops me learning", or perhaps Chomsky's that what you receive you will distort, generalise or delete.

However you should also be prepared to throw out some current (perhaps cherished) beliefs. Ask your self how likely that is? Under what circumstances? One certain part of the answer is “if opportunity arises AND you see value AND it doesn’t prove too hard”. What defines ‘too hard’ will depend on whether you are responding to threat with regret of loss or responding to opportunity for gain [\[\[See Chapter 11 Ch 11\]\]](#).

To absorb from “that’s useful” to in use requires you (your organisation that you are about to transform) to start somewhere in the learning cycle that originally ran from ‘Unconscious incompetence before conscious incompetence, before conscious competence before unconscious competence’. (The company Burch worked for now uses ‘Unconsciously Unskilled’ etc; perhaps more palatable labels).

Chair of the Department of Homeopathic Medicine, National College of Natural Medicine, Will Taylor uses labels for the journey to success as “Accidental [success], Intentional [but gawky], Skillful, Masterful, and Enlightened”. The last three steps all being imposed on a state of Reflective competence; back to Kolb [\[\[See Chapter 6 Ch 06\]\]](#) but with the extra dimension that reflection is most useful when you already have a pretty complete picture. For that reason we will have a second bite at this cherry in [\[\[See Chapter 40 Ch 40\]\]](#)!

The personal journey to enlightenment or perhaps more corporately acceptable “unconsciously skilful” requires individual application, search for opportunities and practice, reflection and adaptation. So to does the organisation’s journey. Shepherding Gladwell’s ‘vital few’ [\[\[Ch13\]\]](#) through the steps is the change manager/ accidental project manager/ business leader’s role; it isn’t the role of the manager of a product development life-cycle.

The point of this chapter was not to explore your journey to success. Now that we have you should reconsider its messages with the organisation substituted for the person. The corporate journey is from steady state business as usual to steady state business as usual. In [\[\[See Chapter 12 Chapter 12\]\]](#) we defined the whole journey as the scope of a program conducted by the business’ operational management and within the context of the whole portfolio of run (RTO) versus change (CTO) calls on allocation of resources.

Within the program there are likely to be one or more workstreams for developing people with the skills to operate the future and work streams to build the systems and fixed assets to be operated. As development activity concludes (the end of ‘traditional’ project thinking) the truly hard part starts. People procedures and fixed assets must be integrated; schemas need to be developed. A frequent phrases in new schema development is “teething problems”.

The organisation must stumble from ‘Intentional’ to ‘Skillful’ and perhaps beyond so it must reflect, conceptualise and adapt. We are targeting “deliver the results in Benefit delivery test terms”. Not doggedly follow the plan. Also recall the benefits follow after the key enabler events and key enabler events are in and of the business.

Paraphrasing Pfeffer and Sutton the recipe for translation of knowledge to action is:

- Culture that rewards taking action

- Trust people
- Coach and mentor people on the job (rather than train them outside the job)
- Lead by listening, walking the talk, be accountable, remove obstacles
- Reward groups for results (foster cooperation over commitment)

Sutton is also known for his book “The No Arsehole Rule”.

When we talk about project success that might translate to some attitudes and actions: For example:

- Senior management must show & share passion for benefits beyond “an interest”– Always 1st on every agenda with expression of WIIFT-WIIFU-WIIFM*

*What is in it for Them/ You/ Me

- Strategy must be described in terms meaningful at least two layers below where it is formulated. That is across Direct, Manage, Deliver. Benefits are enabled when strategy is cascaded, socialised, understood and accepted at the deliver level. The tool & technique to use are the Change Exit Test of the benefit delivery test and the socialisation of the destination and key enabler events on the way
- As status assessment [\[\[See Chapter 23 Ch 23\]\]](#) shows we are ahead or behind intention we must make adjustment. The most important adjustments are those between key enabler events and value flashpoints’ final inspections [\[\[See Chapter 9 Ch 09\]\]](#) Deliver the benefits not the process [\[\[See Chapter 26 Ch 26\]\]](#)!
- People’s actions follow the incentives and personal ‘consequence’ so ensure a pattern of WIIFM that reflects where we are in the benefits life-cycle [\[\[See Chapter 17 Ch 17\]\]](#). Reward people for change and for trying (not for numerical values of results!, not individually!! and not for old patterns of work. Projects destroy the status quo!!!)

Consistent and virtuous reward, Sanction where deserved and especially avoid reward for non-performance

- No choice about what & when, but leave the how as un-constrained as possible [\[\[See Chapter 6 Ch06\]\]](#)
- One resource pool.

That is portfolio level decision making; we (only) ration what is limited (EG CO2 and fresh water)

Key Points

Your current culture does not include the behaviours in this book and the only way to benefit from the time you are investing in the book’s contents is to change your current behaviours and those that result in others because of your interactions with them. The question here is “How?”

A project’s goals share at least one aspect with your goals from reading this book; a project’s outcomes include changing the actions of the people who will live with the project’s outputs. When the project’s outputs are in use they cause outcomes which generate the required benefits. Again the question that outcome delivery needs to address is how to create change in behaviours.

The best time to propose new ways of working is in the wake of a previous disaster but not on the way towards one.

The easiest ideas to get approval for are the ones you have been using, undeclared for a long time (likewise the easiest way to get promoted is when the job title changes to match what you have been doing for a while).

Physical change such as running meetings on your feet are the easiest to implement. ANY change makes the second one much easier **[[See Chapter 40 Ch 40]]** and 10 changes make the 11th unnoticeable.

Experimenting with approaches, tools and techniques in situations where it is your project team who are participating is often much easier than initiating peers and superiors into a new practice. Initiating peers and superiors into something they have observed themselves as useful is also much easier. For example I used p2 as a basis for guidance from a program office for a year before anyone realised. I know an oil and gas company running projects with budgets in the billions and I don't think many people see their 'in—house propriety method' is p2 with the names changed.

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See also

In this book

Further reading

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Top

16 An Organisation is a CAS, So are its Projects and its Context in Society

We began this book with observation of how Coyotes have met non-negotiable adaptive challenge and how humans inherit a brain stems from dinosaurs. All examples of interactions within a single complex adaptive system (CAS).

Complex adaptive systems thinking lies at the roots of 'Agile' approaches, perhaps with little direct acknowledgement. Project management strategies based on appreciation of CAS' mechanisms and strengths and weaknesses spreads much further than 'Agile' in general and software projects in particular.

The mechanisms that observation of CAS reveals give us new ways of approaching otherwise impossible project challenges. The modes of control that are appropriate to these circumstances are quite different from the last 75 years worth of writing. They move emphasis from 'fore'-'cast' and track against our 'pre'-'dictions' to "stir-up, await emergence and be reactive".

In "Requisite variety and its implications for the control of complex systems" W Ross Ashby heralds the insight that complex systems can be controlled even if they cannot be fully understood.

Russell Ackoff's seminal chapter "Systems, Messes and Interactive Planning" in his 1974 book "Redesigning the Future: Systems Approach to Societal Problems" shares many useful observations; one that I'll draw specific attention to now is that an organisation is a Purposeful System within a purposeful system and comprised of purposeful systems. The total is a system of adaptive systems. The total is complex.

This is the fractal nature of a goal as it is decomposed across the layered hierarchy of Direct, Manage, Deliver [\[\[See Chapter 08\]\]](#) and [\[\[See Chapter 13 Ch 13\]\]](#). Each management layer of our organisations receives direction from above, designs actions to deliver results and delegates these actions as direction to the layer below

[\[\[Ed Need explanatory caption to illustration of Triangle of D4/MSP/P2/PMBOK\]\]](#). Each layer's participants may be a team leader of the layer below's efforts to implement their portion of the messes' total response.

The ICCPM (International Centre for Complex Project Management) in Australia [\[\[Ed We should seek them to endorse the book to their members. Is](#)

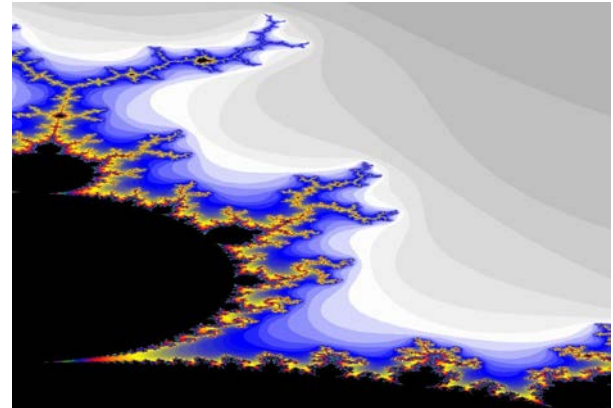
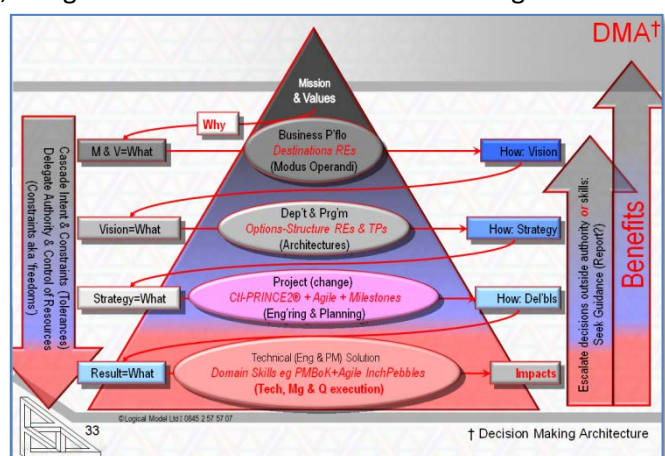


Figure 1: Fractal Self-Similar © Simon Harris/ Logical Model Ltd



Jump [To the TOC](#)

this a me or a we action?])) and many other organisations and people explore how seeing a business as a Complex Adaptive (and purposeful) System helps us build control mechanisms. Every man-made organization exists as a sub-system of a market which in turn is a sub-system of the global economy.

Ackoff points out the synthesis or expansionist view that everything is part of something is in direct and useful contrast to a long tradition of analysis. Historically analytical approaches have drive project management's definition. Analysis seeks to understand by decomposing into parts. The alternate perspective is uncommon. It offers us insights into how to control our projects and our organisational transformations in new ways that are better suited to a highly interconnected 21st century.

Complex means subject to unpredictable emergence due to non-linear combinations of context between interacting elements ('agents' or 'actors'). Connectedness creates interaction that creates unpredictable consequences. You cannot control via 'pre-dicted' 'fore-casts' when the nature of the world is un-pre-dict-able. If you try then you are out of control. Control is possible but via an entirely new set of mechanisms.

The older view point of decomposition or analysis means we can and traditionally have segmented our organisations. We have sought to segment then predict then command actions in the hope they achieve our goals. In a 'mess' Ackoff shows us that every problem is entwined in many other problems. What Dr Jeff Conklin calls a 'Wicked Problem' [[See Chapter 37 Ch 37]]. The "segment, predict and command" approach does not work in messy contexts.

We can divide our organisations into operational division in the business as usual RTB/RTO (Run the Business/Organisation) context and projects in the change (CTB/CTO) context. This is not the only way to divide but however we scale down by decomposition we arrive at 'Agents'.

An agent is an autonomous decision making information exchanging element of a system. A traffic light and a car driver are both Agents. Agents have rule-sets or behaviour patterns. Callon, Latour and Law call these 'agents' by another name. To Latour and co. they are 'Actors', a name that makes explicit that they participate actively. Latour and co's actors are all interconnected. The topic of how connected actors cause the world they inhabit is labelled Actor Network Theory or ANT. ANT seeks to make sense of the world of agency. [[Governance]] [[See Chapter 27 Ch 27]]

ANT notes and expands from the observation that the meaning of communication exchanges is affected by the mechanism of exchange, that communications occurs between many more entities than just humans AND that participating in the communications actually change the agents. A microbe and a country's government are both agents and connected; think airplanes and dread diseases.

Interacting agents causes emergence, a fall forward chain of events. Backcasting [[BM Ch 13]] poses the question "Given an imagined, desired future what predecessor states enable what we want?" Convergence would be "how can we cause emergence then pick emergent states that are on the way to desired outcomes?"

Interacting agents causes emergence, a fall forward chain of events. Backcasting [\[\[See Chapter 13 Ch 13\]\]](#) poses the question “Given an imagined, desired future what predecessor states enable what we want?”. Convergence would be “how can we cause emergence then selectively enhance the emergent states that are on the way to desired outcomes?”

Attractors

Actors/ Agents have patterns of behaviour that may evolve gradually or quickly; punctuated equilibrium. Some behaviour patterns are driven by emotions (at least in all the warm blooded agents). What ever the driver agents are central to all systems. In simple systems agent interactions are predictable.

Agents interact in ways governed by their rule-sets and are affected by ‘Attractors’. Attractors are the forces that operate in a system such as gravity affecting a clock’s pendulum, hunger affecting animals and profit affecting markets and companies. Attractors shape the actions that agents take. Important attractors for project and business success are organisational reward and punishment schemes at every ‘level’ of agent/actor.

Abraham Maslow mapped out one expression of attractors in his Hierarchy of Needs and Fredrick Hetzberg explained the strength of their push and pull in his analysis of two-factor theory (Or Theory of Motivation and Hygiene Factors in work).

The effects of attractors may be to bring a system and its components to a fixed state. For example the effect gravity has on the pendulum which keeps the pendulum swinging. The swing has some small degree of friction that eventually stills its motion. These are point attractors. They are great in operations where predictability is to be prized. Predictability enables optimisations in pursuit of efficiency. When we know how to be effective adding efficiency maximises capital use. Most corporate bonus schemes prize and drive efficiency. An inappropriate driver in a project. Project actions include ‘destroy the status quo’ to create a new order.

Predictability is the heart of almost all philosophies of control through advanced preparation of plans. Great if and only if what is being planned is deterministic. That is when cause and effect are aligned 1-2-1 so that activity and results always follow the predicted path ‘like clockwork’. Mostly anything involving people is not like that. People are only ‘boundedly rationale’ [\[\[See Chapter 30 Ch 30\]\]](#) and even then not all the time.

Attractors may drive cycles. Predictable repeating patterns of agent interaction like the sun and the moon and the tides and annual accounts to investors. Patterns in commerce include seasonal fashions and foods and global economic shifts of boom and crash. A classic illustration of cyclic attractors is the fox and rabbit populations; more rabbits equals (but lagging) more foxes equals less rabbits equals less foxes equals more rabbits ad infinitum.

Attractor’s affects on interacting agents may also be ‘strange’. Perhaps the naming is the wrong way around. What is ‘strange’ is the result of the attractor’s affect on the agent’s interactions. Strange attractors cause paradigm shift. Extinction and death or new order. Every cloud has a silver lining.

An example of a strange attractor would be the potato blight in 19th century Ireland is the reason that North America rivers turn green once a year in the 21st century as the descendants of migrants celebrate St Patrick's Day to remember their roots.

In general point attractors are weak, predictable and work over the long haul while strange attractors are strong (irresistible) unpredictable and swift. For successful pursuit of organisational benefits the challenge is when to use them and how to combine them.

Self Organisation

If circumstances bring a new collection of agents together or if an existing collection of agents are subject to new forces either momentarily (think tsunami; natural or as metaphor) or constant even if evolving (think global CO2 levels or digital technologies) then previously unseen behaviour results and adaptation is nonnegotiable.

Some behaviours reinforce and some cancel out, some occur once and some settle into patterns. Some patterns are virtuous or valuable and some destructive or vicious. If instead of trying to control the unpredictable we take an opportunistic approach then we can prosper by being lucky. The next aim is to manufacture luck.

Recap

To recap a few threads so we can tie them together:

- Our topic is called project management but these two words are inadequate. Our subject is guiding change between old and new business as usual states at varying scales and levels of complexity (predictability)
- Success is 'in the eye of the beholder. Everyone wants different combinations of things out of life that vary over time. We can generalise so for organisations our attractors are either social or financial returns.
- Every agent's behaviour is affected by their own rule-set and their interactions with other agents as driven by attractors ('motivation' to switch from systems speak to psychology speak).
- Changes to agents or attractors causes system change, for better or worse. Which forces ripples of change to spread. Arrival of concurrent changes may cancel out, amplify or exist without interaction. In a more connected world ripples travel faster and further so every connected agent is affected by more changes and has less time to respond and often less comprehension of the source or meanings or consequences.
- When the affects of the change are predictable the positivist engineering and operational research view-point from 75 years of accepted wisdom works. When the affects of change are not predictable a whole panoply of results exists, some of which will be desirable if allowed to arise but there is no 'pre'-dictable' (spoken before the event so plan-able route to these desirable results).
- A business is a system and so too is a project. Historically we have looked inward with decomposition as our tool to understand. If we also look outwards we get an additional toolkit and we can observe how the system functions instead of how the components

function. A system has properties its components don't. Project success is about building systems.

- A business system uses cultural and financial and other forms of capital to enact processes (following the rules of systems within systems) via agents; the people, the plant and machinery of the organisation. The project (and or program) is a system (Actor) within the business system (portfolio and Actor) whose purpose is to modify its containing system (Actor).

Thoughts On Application

Complex Adaptive Systems (CAS) thinking explains to us the mechanisms that determine how the world operates between stable, cyclic and chaotic states. The whole of the Agile movement uses the principles to structure alternative reactive rather than predictive modes of control.

A general recipe for using CAS as a goal achievement method is:

[[Ed Adding a Flow-chart and making the text commentary is a great enticer for browsing buyers]]

- Establish the required end state as well as you can describe it. Even “away from here” is acceptable as an initial start. Benefit delivery tests and Destination Statements are great tools **[[See Chapter 8]]**.
- Identify stakeholders and their WIIFM* interests **[[See Chapter 17 Ch 17]]**. What's In It For Me/ You/ Them/ Us?
- Put stakeholder's desired, goal aligned point attractors in place (given Kahneman's loss aversion ration don't expect action to result!).
- Establish the means for participants to establish their own communications networks **[[See Chapter 35 Ch 35]]**.
- Circulate the end-points' description **[[See Chapter 10 Ch 10]]**; invite critique, refinement, and exploration of states that precede the end points as far back as today and via the milestones of delivered outputs **[[See Chapter 13 Ch 13]]** and Key enabler events of inevitable success (if such a thing is ever truly assured).
- Wait for a strong force to break habits, typically a disaster or other destabilizing event (or trigger your own strong force) **[[See Chapter 06 Ch 06]]** that makes taking action non-negotiable.
- Now habit is broken **[[See Chapter 40 Ch 40]]** watch for emergence **[[This Chapter]]**.
- Expect point attractors them to slowly focus activity. If you have the right aligned collection focus will converge on the key enabler events and deliver the socialised goals
- Loudly reinforce the good emergence, wait before responding to suspected bad emergence, when you do react react quietly and privately (at first) **[[See Chapter 32 Ch 32]]**
- As potential solutions emerge, are socialised and agreed forecast plan the actions and interdependencies that are required for coordination **[[See Chapter 14 Ch 14]]**, for resource allocations, for schedules with dates and for cost baselines. Recall we calculated value long ago in the value case **[[See Chapter 9 Ch 09]]**.
- Execute under control of forecast plans, pulled kanban cards, scrums or scumbans the work to develop the future cultural capital of new behaviours and relationship. Similarly control

the work to acquire or make fixed assets. When both are ready then merge in operations the behaviours with method, machinery and materials [\[\[See Chapter 15 Ch 15\]\]](#) that deliver first Key enabler events and ultimately benefits.

- Monitor the 'burn-down' or the 'Earn-Up'. Where performance indices or 'velocity' forecasts that variation is emerging discard the current 'plan'. Re-cycle the planning processes [\[\[See Chapter 26 Ch 26\]\]](#) to capitalise on the positive and or compensate for the negative.
- Continue until 'new' operational habits are in-fact old JHWDIAH (Just How We Do It Around Here) habits [\[\[See Chapter 15 Ch 15\]\]](#).

Key Points

- When we know clearly what we want and how to get it everything that planning would achieve is already in people's heads. They have shared understanding of target and steps and interactions. Plans serve little useful purpose.

When the steps and interactions are unclear in either content or sequence then planning is helpful. Planning creates understanding which may, if useful be recorded in a plan. When "where we want to go" or "how to get there" is unknown then planning isn't possible. Now creation of plans is either a con, a lie or a mistake. The project leader has a role (Note leader rather than manager) to connect people, share goals, engender motivation and monitor for emergence of first what we want, then how we get there.

- Complex Adaptive Leadership builds the communications paths by which stakeholders converse (that is not joining every conversation), understands and makes available people's (actually agent's/actor's) attractors and triggers action.
- If you can trigger action without resorting to strong forces of the strange attractor then that is 'generally safer'. While reduced volatility means not such deep lows it probably also means not such high highs. That often suits what Kahneman's prospect theory labels people's 'loss aversion ratio'.

See elsewhere in this book

3-5 other book chapters

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17 WIIFM Motivation Cheese and Games - Using CAS's attractors to cultivate emergence

Motivation is sort of simple; if there is something in it for me I'm interested and if there isn't I'm not. If I'm interested that definitely does not mean I'll act. I'm unlikely to act because 'something in it for me implies change' and mostly I don't like change.

Daniel Kahneman demonstrated that to be of equally motivational force to act a WIIFM* has on average to be 1.5 to 2.5 times as big as the fear of loss! That is why bank holiday TV furniture adverts threaten you with losing the 'one time only' discount rather than majoring on how lovely a new sofa would be.

(*What's in It For me)

Spenser Johnson pointed out in "Who Moved My Cheese" that 'They' "move your cheese (impose change on you)" and there are all sorts of reasons not to 'move' but if you don't respond then bad things are more likely than good (and if you do move good things are more likely than bad).

[\[\[See Chapter 16 Chapter 16\]\]](#) explores the affect of changes within a Complex Adaptive System on the agents within the system. Complex Adaptive Systems thinking shows us that attractors shape agent behaviour, ANT points out that all actors (agents) are (somehow, eventually) connected to all other agents. Malcolm Gladwell shows us we have roles in the network of 6 degrees of separation [\[\[See Chapter 13 Ch 13\]\]](#), Gresick, Tubbs and Tuckman told us something of group behaviours in forming teams [\[\[See Chapter 32 Ch 32\]\]](#). Michael Jensen and Bent Flyvbjerg have described how poorly designed incentivisation leads to toxic, value destroying actions.

Project success as defined in [\[\[See Chapter 3 Ch 03\]\]](#) is return of value to capital's owners. [\[\[See Chapter 18 Ch 18\]\]](#) points out that many types of capital interact within any organisation. So far I have explained Value Drivers [\[\[See Chapter 7 Ch 07\]\]](#) as the source of value to us (social and financial) and Benefit delivery tests as test/ Change Exit Test Tests (CET) that prove a value aligned behaviour is in place [\[\[See Chapter 8 Ch 08\]\]](#).

[\[\[See Chapter 7 Chapter 07\]\]](#)'s discussion of Value Drivers was entirely in the context of the organisation's value sources while the enabling agent behaviours are (almost) all about personally motivating factors. We need to flesh-out value drivers for people as well as organisations.

However far we have come through this book so far we can finally say "The (actually "A") key to project success is that results come from the behaviours we get". Behaviours will always be aligned to how the agents perceive the regime of punishment and reward that operates. Align the incentives on what the organisation and the staff and customers and all other stakeholders want and the results will follow.

Since Jensen and Flyvbjerg (and Goldratt) all describe very undesirable behaviours as rife in organisations it can't be quiet as simple as it seems. Wrongly defined incentives are endemic.

There is a trait of emergent behaviour as strong as the combination of gravity and water that incentives maximise benefits along the path of least effort. That is rarely in the manner desired.

Michael Jensen describes lots of examples such as: Low balling when setting ones own targets, shifting declaration of cost and revenue before or after cut-off dates, stopping company beneficial activity once periodic personal targets are achieved to preserve potential in future periods, and a whole lot more. Goldratt's 'Theory of Constraints (TOC) explains how functional managers incentivised by 'Staff Utilisation' have a vested interest in ensuring project work is queued at their departmental doorway. An incentive that directly damages project performance.

Don't incentivise the measures! They are in danger of becoming toxic. Targeting numbers drives unforeseen and subversive behaviours racking up hidden costs you don't want and don't see until damage has been done. 'Rightly designed' is to incentivise the behaviours then measure the benefits. The #NoEstimates community [\[\[See Chapter 28 Ch 28\]\]](#) is a reaction driven by understanding this aspect of unintended consequences. (Of course using emergence is about capitalising on unintended positives; the street is two way).

Attractors [\[\[See Chapter 16 Ch 16\]\]](#) or WIIFMe/Them/Us/You provide a mechanism to both trigger and shape action. The Benefit delivery test's Change Exit Test (CET) provide a mechanism (a near perfect mechanism?) for sponsors to show those they are going to rely on to achieve the desired result what the target is in behavioural, non numeric terms. When the incentive is "Bonus increases with sales to a limit of 200,000 per quarter" then at 199,999.99 motivation reverses to delay not increase. Jensen argues that targets should be limitless. In Accelerating Business and IT Change Fowler shows us that when the incentivised target is "close every sale swiftly" the behaviour not the number is what we actually wanted; the real target. Framing Change Exit Tests needs significant care and practice or a socialised, crowd-sourced review [\[\[See Chapter 10 Ch 10\]\]](#).

Incentivising behaviours provides a visceral, visual description that allows boardroom and boilerroom to be linked end to end across an investment through integration of WIIFM etc schemes all along the desired steps back from [\[\[Ch 13\]\]](#) the desired end-points. The incentivised behaviours will deliver the events on the way to business value if we directly backcast the necessary path to the Value Drivers. Value drivers are the concrete expression of the organisation's Mission and Values in current market contexts [\[\[Ch 07\]\]](#). Change Exit Test (CET) are perfect for incentives because they are a dated binary (Has/ Has not, Is/ Is Not) test of a state or behaviour. HR directors and staff should both love them!

The only blemish (which may actually be a virtue) is 'If this Change Exit Test (CET) is on the way to 1m units of organisational happiness how do we apportion what those who contributed receive?

CETs may require technical change and definitely require operational, business-as-usual change, maybe multiple changes. There is an apportionment question to be decided; in discussion of teams a useful rule-of-thumb that reinforces a team attribute of Interdependence is "... best if rewarded as a group". Every successful project requires a team that stretches across operational and change oriented components of the whole results chain.

A typical challenge for project managers is to trigger action in people. "Yeah I understand and will act" is an often heard response. Often then followed later by "but I'm OK because they haven't acted yet and I'm after them". This can be a circular discussion and suggests the Project Manager

and sponsor involved did not use conventional 'old' engineering project type tools in their most socially useful fashion [\[\[See Chapter 13 Ch 13\]\]](#) [\[\[See Chapter 37 Ch 37\]\]](#).

Strong forces are typically (in the jargon) strange attractors like a Lehman Brothers and Euro zone financial crisis, Regulator change, Entry or exit of a competitor in your market, technology like TCP/IP or smartphones or previous times refrigeration, or the engine. These are irresistible forces for change. Non negotiable, respond or perish forces. They are also explosive or dispersive. They create energy in every direction which is not what we want in project contexts seeking alignment. Sedate, predictable point attractors pull energy in a known direction that promotes alignment. But their problem is they are often too weak to generate inertia breaking action particularly when the inertia is reinforced by factors such as operational efficiency based bonuses.

The recipe in the "How To" section of [\[\[See Chapter 16 Chapter 16\]\]](#) set-out part of the solution. Here is a terse and additive rather than identical summary*:

- Define the sponsor's CET
- Embed the values, cultural norms and constraints that apply
- Socialise the CETs
 - Identify each individual stakeholder's long term and short term wiifm
 - Tie their short term WIIFT to the milestones and Key enabler events. Tie long term WIIFT to CETs (new BAU) on the way to the VFs
 - Establish the required lateral communications channels and ethos
 - Publicise the WIIFT
 - Trigger the bomb
 - Promote back-casting
 - Observe the emergence, intervene as appropriate (Promote, Tolerate or Terminate) [\[\[See Chapter 16 Ch 16\]\]](#)
 - Turn emergent backcast solutions into milestone
 - Translate milestones to forecast plans using PMBoK-Guide, Agile, kanban and similar engineering solution oriented tools and techniques
 - Execute to plan for as long as plan and target appear aligned
 - When alignment is lost return to at least step 8 if not step 1

*The initials are endlessly expanded in every other chapter so if you happen to start reading here don't treat this as typical. This is the summary aide-memoir not the bulky deliberate steps of description that is cross referenced.

But this list hints at but actually omits a factor.

How to use

As Jensen showed old production targets will continue to be hit if left in place. Typically with disastrous side-effects for change initiatives; when improvement comes from change that change almost always demands a short-term drop in efficiency before improvements follow.

Efficiency incentives promote sabotage of change. To achieve change, so:

- Early on replace old Business as Usual incentives with measures of 'difference'. "Experiment with new solutions" incentives.

To prevent gaming the system by just churning unhelpful changes through operations use a two part incentive; positive for introduction of change and perhaps growing with longevity of usefulness and negative for short life-span changes that don't promote achieving key enabler events, benefit delivery tests and benefit stream flows.

- To promote sustainable we later replace the 'difference' incentives with those aligned to the on-going sustainment of the Change Exit Tests without back-sliding.
- A 'percentage of the initiatives that were started and are delivering improvements' might be a way to help moderate only starting initiatives of merit rather than bulking-out a list for bonus generation.
- Later when Business as Usual is restored we can reinstate efficiency incentives

What is motivational changes over time, by person, by person in context and by the evolving nature of business targets that we want hit. The path to success must use a combination of incentives.

See elsewhere in this book

3-5 other book chapters

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18 It is all about Capital, It is All about Capacity

An organisation is not genetic, but it is memetic. A purposeful system. An Agent in CAS* and an Actor in ANT [\[\[See Chapter 16 Ch16\]\]](#). A collection of processes. Processes that interact with capital in all its forms, that interact in a way that is self-sustaining but is effected by its environment. The interactions may lead to it prospering or dying; slowly or abruptly.

[\[\[* CAS – Complex Adaptive Systems, ANT – Actor Network Theory \]\]](#)

If we can attribute a meme with purpose as we can a genetic organism then the purpose of a portfolio of capital is to sustain itself. Within every organisation the people involved contribute to that purpose in roles at three levels. All three levels (Direct, Manage Deliver) [\[\[See Chapter 20 Ch20\]\]](#) preserve, use and increase the total intellectual, social, financial and other forms of capital in the portfolio that is the organisation or their part of it.

Portfolio management is concerned with the optimal mix of uses of capital. Projects are the means to transform forms of capital. Programs are the means to manage the entire transition from old operational mix to new operational mix.

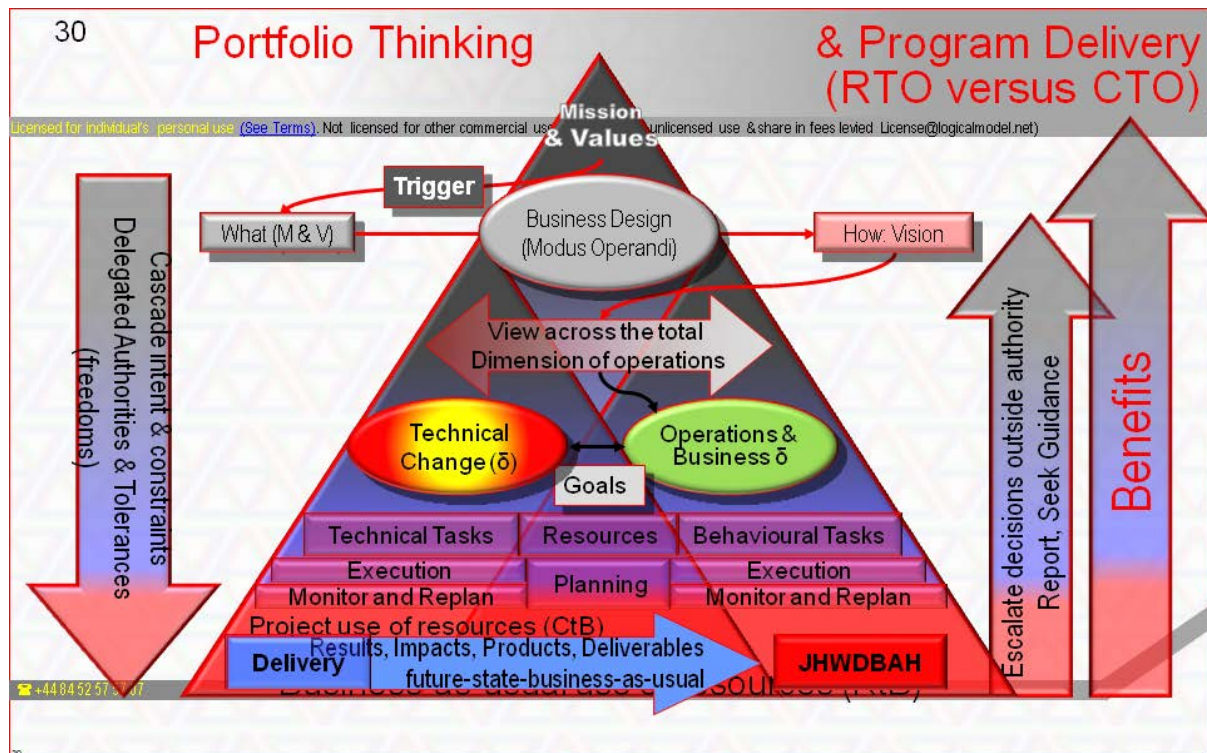
The collection of actual capital uses as opposed to potential uses is the organisation's expression of its intent or personality or mission plus values. We expect organisations to always maximises returns for their owners and participants at some tolerable level of risk. In general 100% capital use for operational purposes maximises short term returns at a cost to the future. Harvard professors Kaplan and Norton took us through the need for a "Balanced Score Card (BSC)" in their 1996 book.

The two Harvard professors explained that tomorrow's revenue comes from tomorrow's products developed by diverting some of today's revenue into investments in learning and growth and new product development (NPD). A choice of mode of ambidexterity [\[\[See Chapter 06 Ch 06\]\]](#).

The BSC is a tool for translation of strategy to selected actions. The original formulation is now relevantly extended into a 3rd edition that uses Destination Statements (See [\[\[See Chapter 8\]\]](#) and Further Reading below). The processes of balancing the allocations of forms of capital is variously labelled benefits management or portfolio management. What ever we call it (benefits management or portfolio management) and however we decide the mix of capital uses the challenge is always the rationing of available capital to potential uses. Note that once upon a time air was not rationed. The SCUBA diving and Global Warming illustrate two ways in which rationing is relevant. It isn't just 'our' capital we need to survey but that of customers', suppliers', competitors' e.al.

Kanban is a great mechanism for managing development activity across the limitations dictated by available forms of capital. An alternative, descriptive name in English instead of Japanese (where kanban means signboard) is Bandwidth Analysis (& descriptive of purpose rather than mechanism).

Portfolio management is concerned with the optimal mix of uses of capital. Projects are the means to transform forms of capital. Programs are the means to manage the entire transition from old operational mix to new operational mix.



Wikipedia identifies a long list of forms of capital: Money in the Bank, Cultural, Economic, Financial, Human, Infrastructural, Intellectual, Natural, Physical, Political, Psychological, Social, Symbolic, and Working capital. Types of capital include staff will and skill, managers energy, directors foresight and the plant, machinery, procedures, culture and cash. Further searching will also reveal others such as spiritual capital.

Pierre Bourdieu's chapter "The Forms of Capital" in Richardson's "Handbook of Theory and Research for the Sociology of Education" makes interesting reading about the transformation between types of capital and the place of art (etc) in the mix. I will focus on just a few of the forms of capital for the purpose of being successful through and with projects:

- First there is the form of capital that readily comes to mind of money. Capital is a store of value. An important property of capital is that it can be transformed into other types of capital ('value at rest', potential) or into revenue (consumed, exchanged, In motion, Flowing).

Money is the most easily transformed; the most 'liquid' of assets as it was designed and is used to represent value in a symbolic manner. Symbols can travel at the speed of light.

- Second: the shared and disparate knowledge that an organisation's people has is a great store of value.

Knowledge of how to use different specialist skills in a collaborative way is the creation of potential. When fed with materials and customers the coordinated interaction of the organisation's people generates satisfied customers who have received goods or services they prize (they have a benefit). The customers leave a payment or vote a particular way and thus the

supplier also has a benefit. Generally we refer to routine interactions as BAU or Business as Usual. BAU is the routine mutual exchange of benefits. Knowledge travels faster than skill. Skill is knowledge in elegant use.

Kang and Snell suggest that there are three forms of knowledge capital here: (1) Human capital – what we believe and know individually and can combine, (2) Social and Organisational or Cultural capital – the values and relationships that we share. They enable and motivate us to combine our efforts and (3) Intellectual Property – the methods and processes created by our shared human and cultural capital that delivers goods and services.

The medieval guild systems were all about keeping Intellectual property capital safe (by keeping it secret). Modern cyber-security maintains that tradition, especially in spheres such as defence or pharmaceuticals. The modern patent and copyright systems are also about keeping this information proprietary.

Movements like Creative Commons, Wikipedia, Project Gutenberg, Praxis and others are about spreading it without fee. Physical co-location used to be the total determinant of our social capital balance but now Twitter and Facebook are making changes whose impacts are complex and thus beyond predictable [\[\[See Chapter 05 Ch 05\]\]](#).

A business change must always create some new form of behaviour or shared intellectual capital. It is the essential element of projects and programs but is largely omitted by the common texts as there is little engineering content!

- Capital's third form of clear interest to successful projects is the plant and machinery available to us. Typically defined as our 'Fixed Assets'. It includes the warehouses to store and the machines whose use transforms raw materials to finished goods. In an intellectually based services business our fixed assets might be the photocopier, website and internet infrastructures.

A business change may seek to create or acquire new fixed assets. This is the bit common project management texts concentrate on yet it is not always necessary for the generation of new business benefits. The shared behaviours is always needed.

Business as Usual (BAU) is generally cyclic, repeated and predictable in its use of intellectual capital, human capital and fixed assets. BAU's control cycles often follow the cycles of the sun and the moon (another consequence of a half-billion years of natural systems). BAU is stable until the forces of attractors [\[\[See Chapter 17 Ch 17\]\]](#) trigger irresistible change.

The practises of Business as Usual are typically refined over time so efficiency is a prime, worthwhile and practical goal. While we are operating within Business as Usual it has no envisaged end-point. Many of us involved in Business as Usual may be unaware of its start point. When we talk projects there is a lot to change.

The focus on the three capital forms above: money, culture, infrastructure is not intended to dismiss the other forms as unimportant. Indeed the spiritual etc. are more important to 'life the universe and everything' and are also directly contributors to project success.

Thoughts On Application

The addition of 'program' to the lexicon as something other than synonym for project should have helped but its redefinition was still made viewed with supplier's eyes. When the required definition is behind the words [\[See Chapter 12 Ch12\]](#) then portfolio will be appreciated as "all capital uses", program will be "the full journey from stable old business as usual to stable new BAU" and project will be "the controls around the relevant product development life-cycles' capital transformation activities".

Kanban is a tool to directly address the capacity versus work in progress challenge. Kanban's roots are in Taiichi Ohno's Toyota Production System (TPS) also often called Lean after John Krafcik's 1988 article "Triumph of the Lean Production System" (Lean as a 'movement' has in a number of ways diverged from TPS).

The screenshot displays a Kanban board for 'DEV TEAM 3'. The board is organized into three main columns: 'TO DO', 'In Progress', and 'DONE'. Each column contains several task cards with details such as task name, assignee, and status. The 'TO DO' column has tasks like 'API Implementation' and 'Integration of content'. The 'In Progress' column has tasks like 'Backend logic', 'Mobile Application', 'Security audit', and 'Backend integration'. The 'DONE' column has tasks like 'Mobile Application' and 'Backend integration'. A sidebar on the right shows a list of tasks and a 'DEV TEAM 3' header.



Jump [To the TOC](#)

Kanaban divides workflow into steps, allocates a capacity to each step and prohibits an excess of Work in Progress (WiP) to prevent what computer scientists call thrashing; swapping from task to task without achieving anything because of the overhead of swapping not focussing. Goldratt also points out that when swapping between working on a variety of goals the time to delivery of all targets is extended. It is undesirable to have capital in the throws of transformation for longer than necessary when seeking profitable use of capital. Time (lost) is money (lost).

To use kanban at the portfolio level each desirable, potential initiative is described on a card with an assessment of the value returned and the effort required. The cards are placed on the board in a holding area. As capacity in the work-flows steps becomes available by an existing activity moving on a step so who-ever prioritises work commissions the next desirable activity. For our purposes here at the portfolio level an activity is a business changing program (in the 'complete cycle of change' not 'very big project' sense).

Note kanban accommodates procedures for expediting the urgent and unforeseen and handling pragmatically other out-of-flow needs.

A (the!) portfolio is all the uses of capital (resources under control) that are Work in Progress (WiP) plus the queue (or backlog in agile speak) of "what we could do". We should talk of "The" portfolio because ultimately the organisation is a total collection of assets (capital).

A portfolio almost certainly does contain collections of programs (sub-portfolios) and stand-alone programs. Programs contain one or more projects*, projects contain phases running in parallel, in sequence and overlapping. We can carry on the decomposition by way of phase contains control account or team duties. A team's duties are a collection of work-packages or sprints that are structured collections of tasks or jobs in the life-span of an asset. Decomposition carries on to the lowest useful level of granularity.

(*NOTE this is NOT the widely published, supplier inspired (blinkered) view-point. This view would never score a mark in current 'professional' exams. It will however enhance shareholder value.)

A Procedure For How to Use this

Portfolio mechanics could run roughly thus:

[[XX Ed Another annotated Flow to capture the lazy thinker as they browse ?]]

- I have an idea, I'll submit it to the portfolio backlog. In submitting it I'll prepare a DSP (Decision Support Package – **[[See Chapter 25 Ch 25]]**). My backlog may be central or local or a combination.

If the idea is about current delivery methods it might say "we can meet our operational cycles more effectively by..." this is a bottom-up journey. Typical when technicians recognise opportunity invisible to senior leaders. Organisations have not been good at handling bottom-up initiatives as the 75 year heritage comes from the era when the management was educated and the labour force's contribution was largely physical.

Now the labour force is more educated in its domain than the management. Thus often ideas from a delivery source say “there are capabilities within technologies that I work with to do previously unimagined things with our capital”.. It is these ideas that the last 30 years but particularly the end of the last century turned into projects with cost but no deployment; the existing ‘find a sponsor’ mechanisms in use are past their ‘sell-by’ date

Submission of ideas at step one should never be disincentivised by imposing a standard or template on submissions. Loose guidance is useful, rigor arrives at step two.

Useful techniques in steps One and Two include Socialisation of Destination Statements Benefit delivery tests [\[\[See Chapter 8 Ch 08\]\]](#) [\[\[See Chapter 9\]\]](#) [\[\[See Chapter 10 Ch10\]\]](#)

- Step 2 after the idea arrives in the queue at step 1 is to vet the idea for adequacy of decision making information and level of decision making required. Part of the adequacy discussion is the amount of work it will bring into existence across the workflow. Part of the discussion is Net Present Value or other preferred measure of virtue as determined by matching to Value Drivers [\[\[See Chapter 7 Ch 07\]\]](#). If the combination of decision data, decision level and decision urgency are not all matched then research and refinement work is required.
- Decide!

Actually the decision isn’t so simple. The decision making must ask “what is the current work in progress and its net value?”, “what is the net value of the proposed item?”, “should we schedule accommodation of the new idea into the work flow? If so is scheduling ‘when it fits’, as ‘an urgent override’ and if so is this a replacement of current commitments?”

- Decide again! But this time we are the other side of the “as a substitution?” The question examined is “can this initiative still jump the entry hurdle as compared to all other uses of capital?” The hurdle is not necessarily where it was when the initiative was originally selected. The world has moved on. There will be an accounting answer and an emotional answer and a gut feel answer (per person asked). [\[\[See Chapter 30M Ch 30\]\]](#) & [\[\[See Chapter 23M Ch 23\]\]](#)

A key observation here is that initiatives are subject to repeated re-evaluation against today’s context. Since sunk cost is ignored it is the to-go cost versus the as yet unrealised returns that are the arithmetic part of the evaluation. In general that should rise toward infinity as incremental cost-to-go approaches zero.

- Plan and Execute the twin streams of technical and social development (if a technical stream is needed). Monitor against milestones and Key enabler events using Earned Value [\[\[See Chapter 3M Ch 23\]\]](#)
- Effect temporal or structural or organisational ambidexterity change [\[\[See Chapter 6 Ch 06\]\]](#)

Monitor against each Benefit delivery test’s test/ Change Exit Test Tests (SMTs).

- Nurture the behaviours and plot the benefits flow against each Value Flashpoint’s test/ Change Exit Test Tests (SMTs) [\[\[See Chapter 9M Ch 09\]\]](#)

Three Points

Capital is all the resources your organisation has access to. The choice you face is how to allocate them across capability development and returns both today and in the future.

Project selection decisions must always be made in a portfolio context in order to compare the total demand across the aggregate capital available.

Every go/no-go decision in any single initiative should re-confirm all current capital uses across all concurrent initiatives and along their timeframes of both capability deployment and absorption into the future stable state of Business as Usual.

See Elsewhere

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19 Critical (Don't Be Confused Between) Criteria and Factor: CSFs are Your Sponsor's Job Is To Ensure Abundance Of

The Association For Project Management's online glossary* makes clear what Success criteria are; "measure by which projects programs and portfolios are judged". The APM's glossary also includes another important term "Success factors and maturity".

* <https://www.apm.org.uk/glossary>

It is unusual to have a glossary term with an "and" in it but it is meaningful when we look at the definition given; ""'. Actually these aren't their words but the basic thrust is equivalent.

Of important note is that success criteria are the end targets the project must hit while success factors are the pre-requisites that facilitate success. Of course the success criteria need to be created with full insight into our [\[See Chapter 3 Chapter 03\]](#) discussions. Success criteria are in the eye (heart? gut?) of the beholder. Success factors get us to the target.

Guru Prakask Prabhakar in his paper that we consulted in chapter 02 "What is Project Success: A Literature Review" quotes Rockart and associates listing of a project's targets as "Critical Success Factor (sic): [Company] Image in financial markets measured by Price/Earnings ration" a clear example of the terms being used in the exact opposite of the APM's glossary's definitions.

stuff that helps success and the degree to which your boss recognises you need that stuff

Not necessarily wrong but it does show all project vocabulary must be checked in local context for its local meaning. Another (imho better) term that APM define as "essential conditions for acceptance" is Acceptance Criteria or AC. AC and SC are synonyms.

The definition of Success Factors (the "management practices that...increase the likelihood of success...") that the APM gives us is actually boarder than the focus I think we need to emphasise with sponsors. If we qualify this start point appropriately then we talk of CSFs. The "Cs" in CSFs are Critical success factors. The factors in a project's (change's) context that are pre-requisite to success.

To be explicit; if the critical ones are missing success isn't possible. They include management practices but are more than just practices. Of particular note is access to suitably qualified and experienced people (sqep). The CSFs are the project manager's boss' accountability to ensure are in place.

After critical factors are 'normal(?)' factors. The more success factors that are present the better our chances of success are. Conversely, but rather stating the obvious 'the greater the unmitigated stresses and compromises a project faces the greater the likelihood that costs will exceed benefits. Inadequate attention to SFs and CSFs is value destroying.

Most real control over some if not all the Critical factors will reside above the project's management team. Control lies with either the sponsors or their masters. Sponsors and their masters are the

19Critical (Don't Be Confused Between) Criteria and Factor: CSFs are Your Sponsor's Job Is To Ensure Abundance Of

person or persons who control the containing program or portfolio. Often the organisation's board of management perhaps as delegated to an Investment Committee or Portfolio Management function.

The academic literature gives a wide survey of the factors commonly found to be success factors. Walid Belassi and Oya Icmeli Tukul's paper in the International Journal of Project Management Vol. 14, No. 3, pp. 141-151, 1996 entitled "A new framework for determining critical success/failure factors in projects" gives a table of seven previous papers' lists.

Consolidating the list of lists shows that the prominent entries accord pretty well with the less well know Standish Group sample research paper "Unfinished Voyages" (The well know one is the Chaos Report). Standish's Unfinished voyages presentation gives point out of 100 to success criteria.

- User Involvement 19
- Executive Management Support 16
- Clear Statement of Requirements 15
- Proper Planning 11
- Realistic Expectations 10
- Smaller Project Milestones 9
- Competent Staff 8
- Ownership 6
- Clear Vision & Objectives 3
- Hard-Working, Focused Staff 3

Given our [\[\[See Chapter 3 Ch 03\]\]](#) definition of success this is a rather sad list aimed at success of project management not success for the investor – although clearly all these factors help none of them are focused on factors supporting return on investment.

[\[\[Ed please don't split table from its 2 following paragraph of text\]\]](#)

Nor are the terms in the list necessarily clear or of equal significance; what is "proper planning"? A better entry would be "proactive and reactive controls match the industry's needs". EG Bad to be reactive in a nuclear environment, while being predictive in a fashion led industry is a function of how far you attempt to look into the future. Item 8 is a restatement of items 1,2, 7 and 10. Item 9 an overlap with 1 and 5.

Noticeable in Belassi and Tukul's survey is Cleland and King's list from their 1983 book "Systems Analysis and Project Management" which includes; Operational Concepts, Market intelligence, Executive development & training as well as Project review & summary. Better, a step towards great.

Thoughts On Application

Both CSFs and SCs or ACs come from the sponsor. Lets decode.

The investor (sponsor) has to express the acceptance criteria and or success criteria (SCs and ACs). Without them the project does not have a target to aim at. Knowing the target with precision before

we set off is often quoted by text books as essential. In reality knowing the target only roughly and maybe quite late on can be enough! In these cases knowing the direction of travel is necessary. Selecting development lifecycles and a control life-cycle that match clarity and evolution (and instability) of the target is a critical success factor. [\[\[See Chapter 22 Ch 22\]\]](#)

Having the critical success factors in place from the beginning and maintained throughout is a success factor. One hardly mentioned by most text books. It actually matters continuously. Acting to address adequacy of success factors is the sponsor's duty. They must recognise how absence of success factors affects overall investment performance through the development and implementation and benefits harvesting phases. It is the sponsors duty to (but often actually the project managers efforts that) secure the elements that are critical to enabling project success. Share a chat with your sponsor about CSFs as soon as AC / SC get mentioned. I.E. Early on!

Typical success factors are covered by Standish above but we might improve their list:

- A team. This means a group of people with complementary skills that are relevant to and sufficient for the task at hand who are able and willing to challenge each other, support each other and laugh with each other.
- A set of shared and personal targets that are compatible.
- Resources beyond skilled team members. So materials and fixed asset facilities that the technical development and social development tasks require. Resources need to be available in timeframes and quantities balanced with project urgency and acceptance criteria, acquisition and the through life ownership costs and durations.

It is likely that many of the success factors affect each other. So determine those that are critical and those that are plentiful or scarce. For example having a meeting 'space'* to debate and argue superior solutions is critical to a design team. Having a second meeting space is probably a 1/3rd or 1/10th the value of the first one whose absence may equal assured failure.

*physical or virtual capability.

- A 'space to debate' and a team are half the battle, the time to debate are the other half. If your organisation is one where 'time booking codes' choke off cross fertilization of expertise and you can't get the booking madness set aside then ensure a budget for time to discuss and search for code solution options. The number one CSF is a few shared mental models 1) the end-target, 2) the routes to success 3) the currently selected route. The next most significant is the 'GPS*' tracking to change route [\[\[See Chapter 26 Ch 26\]\]](#) when needs show the current path is no longer right or best.

*GPS Global Positioning Satellite (systems) used in route-tracking software like google navigation.

Key Points

Reality is that when you know what you need you will also have to; identify who can supply it, determine what they want and where you might get that from etc etc etc and then enact the chain of bargains.

Ensure the sponsor understands their duties with respect to acceptance criteria and success factors

If you can't access your 'sponsor' to tell them then blow the whistle (escalate for action to resolve) with the most senior person most directly paying for the effort that you can. Make clear that you are adopting them as actual sponsor! The only meaningful sponsor is one you speak to regularly.

Provide exactly the triple services of setting targets*, providing resources* and receiving escalations to all you subordinates. **[[See Chapter 20 Ch 20]]**

*Or facilitating that the appropriately informed and authorised person does.

See elsewhere in this book

3-5 other book chapters

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20 Leadership, Accountability, Escalation and Issue Management

Reputedly more than a couple of thousand years ago Lao Tzu said “When the best leaders are finished the people say ‘we did it ourselves’”.

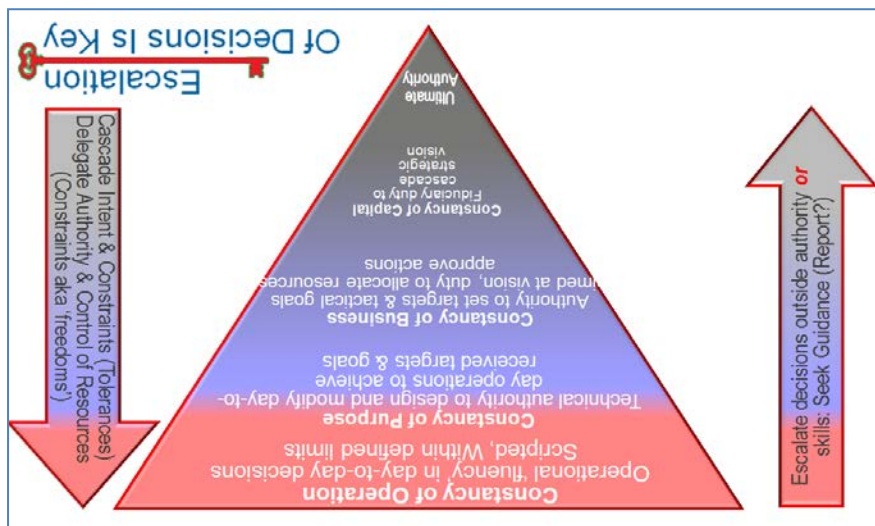
In modern times Robert K Greenleaf has proposed, interpreted and described Servant Leadership as a philosophy for successful business and education. Greenleaf spent many years of his career in industry and the end of his career as a visiting lecturer at Harvard, MIT’s Sloan School of Management and other significant organisations.

Lao Tzu’s thoughts of about 570BC/PCE were definitely before the arrival of ‘Agile’ methods but remain relevant. Jim Highsmith’s Agile Project Management: Creating Innovative Products explains the need for project managers to clear blockages and provide resources. A message reinforced by its inclusion in “Managerial Leadership the McGraw-Hill Executive MBA Series” by associate professor Peter Topping. This enabling role is a critical success factor **[[See Chapter 19 Ch 19]]** in all environments, not just agile.

We need great sponsorship to achieve flowing benefits.

The PMBoK Guide 5th Edition exposure draft referred to Robert Greenleaf’s influential writing on what the Servant Leader is but the reference was removed before the final version was published. Perhaps the 6th Edition with its move towards ‘coordinate and collaborate’ will include it.

Greenleaf characterised the leaders that current times need if we are to succeed. His observations state successful leaders are motivated first to be a servant assisting those he or she leads. Greenleaf’s test is that these leader’s actions improve the lot of those they lead.



A traditional view of organisations places the leader at the top of the pyramid, perhaps autocratically making decisions and delegating instructions. A suitable model when the degree of education and decision making ability increases as we ascend the pyramid. A starting point for organisational design that is wrong in today’s connected environment. Education and areas of discretions are now spread all across the organisational relationships.

Between the time when organisational structures settled on the hierarchical and today the degree of expertise, education and influence over success has shifted from being concentrated at the top of the hierarchy. Now decision making expertise is federated through out the whole organisation, but authority often still runs upwards.

Greenleaf explored what Islam, the Bible (Mark 10:42-45) and many other observations across history have expressed when turning the organisational hierarchy the other way up. When the leader sets project goals they create a duty (accountability) within themselves to help support, enable and facilitate for those they lead. The leader's duty is to lend their weight and authority to overcoming the issues that block progress towards delegated goals.

A servant-leader combines personal qualities such as active listening and feeling for others with foresight, governance and influence. The result should be a style or attitude that cares for the people they are leading. Blake and Moulton's Managerial Grid plots an interpretation of how the combination of high and low concern for people and concern for task map into 5 significant groupings ranging for Lo-Lo to Hi Hi, mid-mid and Lo-Hi or Hi-Lo. Greenleaf's focus is on the quadrant where concern for people and concern for task are both high.

Greenleaf believed that the led give their allegiance to the leader freely and knowingly and in proportion to the leader's stature as servant who can assist them to succeed (WIIFM [\[\[See Chapter 17 Ch 17\]\]](#)).

Thoughts on Application

In projects the 'leader' might be called 'sponsor'. Hierarchically structured organisations need sponsors in each level. A sponsor above us and us to sponsor those below. The sponsor's duties, at every level are to:

- Describe the end point required and the constraints imposed [\[\[See Chapter 8\]\]](#).

Typically constraints honour cultural values and capital limits (is it stretching capital too far if we say time is money especially when expressed via Net Present Value?)

- Provide the Critical Success Factors (CSFs) [\[\[See Chapter 19 Ch 19\]\]](#) required to reach the end point
- Be accountable [\[\[See Below in this chapter\]\]](#).

The mechanism of delegation runs broadly:

- Envisage and prioritise and select and delegate a target
- Provide resources and describe future rewards
- Routinely
- Ask "How can I help?"
- Check the target is being achieved within constraints
- Act on escalations
- Receive the result and say thank you

From the perspective of the delegate's role below the sponsor's role. The delegate's duties are to:

- Receive, understand and agree the goal, the constraints and the controls. Particularly how and when to escalate
- Apply their skill and will and the resources provided to design and deliver what the sponsor asks for within the constraints imposed.

Note that inability to deliver within constraints is by definition an issue [\[\[See Below in this chapter\]\]](#) and the sponsor's duty is to resolve escalations (issues). We will cover issues in this chapter.

The description of the interfaces up to and up from any level of management within the hierarchical structure of most organisation is very well described in p2; we will say more about how PRINCE2 helps in [\[\[See Chapter 22 Ch 22\]\]](#).

This process runs at each sponsor/ delegate boundary. Each of the middle layers has a layer (Purposeful System in Ackoff's terms [\[\[See Chapter 16 Ch 16\]\]](#)) above from which direction comes and a layer below to which instruction is passed. The transition between direction and instruction is (in projects) the design of solution in that level's vocabulary and reality.

Our simple model needs also to include recognition that ideas that optimise, extend or change the organisation can arise from the bottom where technically enabled change would not have been visible to those with a strategy view point and, probably, an outmoded grasp of what is possible today.

The appropriate control mechanism for "check the target is being met" varies depending on whether what is wanted is clearly stated and whether how to deliver it known in huge detail, in some detail or unknown. Eddie OBeng gave us a good diagram in four quadrants that I'll adapt in redrawing it here. Our quadrants don't invalidate PRINCE2's suitability as a control structure. Which quadrant we are in does challenge the philosophy that comes straight off the page of the official manual. The quadrant's characteristics must guide us in the selection of the right product Development lifecycle [\[\[See Chapter 22 Ch 22\]\]](#).

Projects in O'Beng's bottom left hand corner can be managed, those in the top left need to be led.

[\[\[Ed What vs How diagram – Needs simplified \]\]](#)

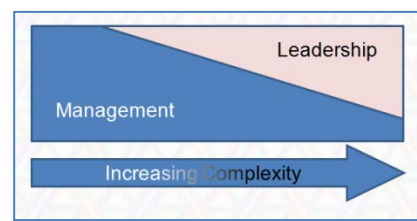


Adapted from Eddie O'Beng The Secret Leaders Handook ISBN

Increasingly a 'project based approach is used to resolve challenges in the top right corner of the quadrants. Here people of many disciplines combining their expertise to produce a result that is beyond the extent of any one team member's knowledge alone. Perhaps as a bonus by combining many people's efforts the required outcomes can be delivered in deep time instead of over a long time [\[\[See Chapter 14 \Ch 14\]\]](#).

For project success when the solution or even the target is unknown or less well know then the title 'Project Manager' misleads us. 'Manger' does not directly tell us that now Leadership is a (the?) critical success factor [\[\[See Chapter 19 Ch 19\]\]](#).

Leader and Manager are two roles that may be combined in one person. Both are required for all the definitions of project success contained in [\[\[See Chapter 3 Chapter 03\]\]](#). When the links between cause and effect becomes more obscure (the project attribute I choose to illustrate by the word 'complexity' in [\[\[See Chapter 16 Chapter 16\]\]](#)) so the need for leadership increases over that of management.



In leadership we give a commission "please marshal others to collaborate to solve this and tell me what help I can provide" Be a servant Leader in Greenleaf or Lao Tzu's terms.

The role title 'Project Manager' fits supplier activity with engineering heritage where a deterministic solution to a well known problem exists (or a Feasibility and Research project will design a solution before the construction phases begin). Many organisations have allowed the manager aspect to also affect the role of project sponsor who becomes a name on a document front cover rather than an involved decision making direction setting facilitator for others to achieve the organisation's goals.

In his presentation "Role of the Project Leader" Dr. Alexander Laufer Director Consortium for Project Leadership at the University of Wisconsin-Madison addresses how the leader's role reflects technical vs adaptive problems.

Laufer observes that the desirability and practicality of control is determined by the degree of certainty. In deterministic context control identifies variances from plan to enable determination of corrections to come back on plan. In complex & adaptive circumstances control identifies variance between trajectory and the hunt for a target. Controls give us today's input into tomorrow's task list & resource allocations.

In complex environments control becomes observe & reflect while planning becomes 'using reflection's new learnings' through hypothesis, experiment & adapt.

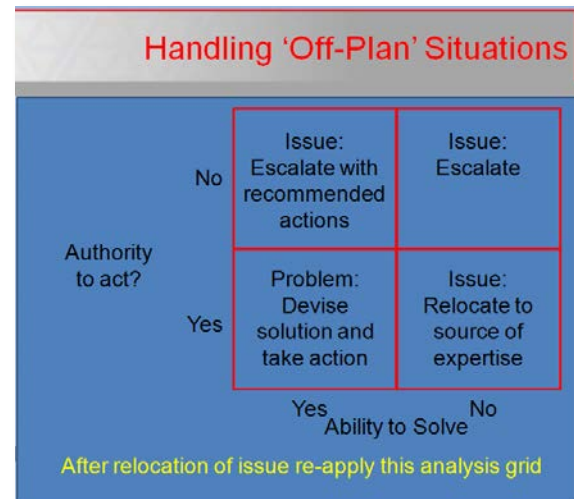
Note too that the need for management is mandatory and focused on product development activities. The need for leadership emerges with complexity and has varying focus, first on expressing vision, then on enabling transition of project outputs into work and then on settling back into routine Business as Usual.

It is also mandatory overall that someone be setting the vision, caring for the people, arbitrating when decisions are balanced, maintaining a coherent policy when opinions are diverse.

Escalation and Issue Management

Escalation is the relocation of an issue. A need for action arises when we wish to deliberately move off the current plan, or have accidentally moved off plan. If we arrive in a situation where we lack one or both of ability and authority to act then we have a need to relocate the actions. An 'escalation' need.

When we possess both authority and ability the resulting problem should be translated to action and the actions applied. Note that accountability and escalation apply whether the probability of events is 100%, 0% or between the states of certainty. That is while I use the word 'Issue' the discussion applies just as much to uncertainty or 'Risk'.



When one or both of authority and ability is missing the actions or decision or both must be relocated. When I delegate a required result and set limits on actions I create accountability within myself to the person I delegated to.

As their servant leader it is my duty to receive escalations and act. Acting is a Critical Success Factor [\[\[See Chapter 19 Ch 19\]\]](#). The need for action is in their own self-interest! It is their goal their subordinates are responsible for delivering.

The Leader's Duties for their Followers*

*So applies at each level

Some observation drawn from "Project leaders as boundary spanners: Relational antecedents and performance outcomes" by Brion, Chauvet, Chollet & Mothe's which we will revisit in [\[\[See Chapter 35 Ch 35\]\]](#) are that someone must:

- Protect the team member's focus from external distractions

Team members often face concurrent demands – the Project Manager is the only role who is specifically charged with protecting them

- Handle external coordination – getting others to meet obligations

Be in close, regular contact with the organisation as a whole, sharing the big-picture context with the team for interpretation of detail

- Gathering, structuring to integrate knowledge across interfaces
- Forging contacts and networking to help achieve organisational (and personal) goals
- There are bounded rational [\[\[See Chapter 30 Ch 30\]\]](#) causes of competition, challenge & conflict. The leader's role is to promote performance of those who are led by listening, using empathy, healing, awareness, persuasion, stewardship, being ethical and trustworthy (etc).

Each layer receives leadership from above and gives leadership and management to the layer below. This is one of the reasons why project and program are not different control structures, just structures that control different considerations [\[\[See Chapter 12 Ch 12\]\]](#).

Key Points

- Roles involved in use and their actions
- The 'cost' and 'benefits' that motivate use
- Sources & References; Full source & 'Of Interest'

See elsewhere in this book

3-5 other book chapters

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21 SCOPE Freezing vs Backlogs at ALL Levels - A Philosophy Of Change Management

Scope creep is a scary and emotive topic. It is just one aspect of project control challenges. Perhaps taken overridingly from one perspective; the development team's. Perhaps from the inventor's perspective change is refinement and extension of the value proposition?

Gardiner & Stewart point out that the mantra of "to cost time and quality" must be replaced by "With the best achievable NPV" in their paper "Revisiting the golden triangle of cost, time and quality: the role of NPV in project control, success and failure". It is a nonsense when change control is expressed in Cost/Time/Performance terms. Yet another consequence of parochial supplier biased self-interests. The question rests on 'Current benefits profile versus potential benefits profile'.

Development teams often approach change control wrongly. It may be fairer and more accurate to say people in general miss understand change control. Change control is not just about scope, or creep. Nor is it about prevention of change (and elimination of creep is achieved through Quality Control's Verifications at handovers [\[\[See Chapter 23 Ch 23\]\]](#) and [\[\[See Chapter 24 Ch 24\]\]](#)). Change Management is about the maintenance of baselines.

Change Management rebalances cost, time, performance etc targets when any one of the attributes that are in connected tension changes. Gain of a team member is as much a trigger for change control as a customer's declared extension to needs or a team's discovery of an error in execution.

Before we are through here we need to tease apart the multiple threads that converge in this topic. We need to understand:

- Change management as distinct from Management of Change.
- The source of the driver for change determines who pays the costs and reaps the benefits of change and thus who decides the change's disposition.
- The process to manage changes in both agile and traditional contexts.
- What scope creep really is!

An investment has degrees of freedom in benefits profile, acquisition and ownership costs, time to first and last benefit, benefits magnitude, product features and performance as well as other dimensions such as resources allocated, health and safety concerns, reputational effects, emotional reactions in staff and customers and a myriad more. Scope is only one aspect that can change. We should not single it out but should address all manifestations of variation to existing baselines appropriately.

It is a nonsense when change control is expressed in Cost/Time/Performance terms. Yet another consequence of parochial supplier biased self-interests. The question is Current benefits profile versus potential benefits profile

Change occurs in the external market place and thus we need change control over strategy. Change occurs in technical capabilities. We might argue this is change control over tactics. Change management (and Management of [consequential impacts from] change) operate at the levels of board room and boiler room.

Examination of (for example) cost or schedule variability immediately reveals that either can vary up or down and by small or large amounts. An important question is “what are the scope and other dimension’s equivalents?”, “how do these affect benefits?” and “what are the available ways to be in control?”

Cost and schedule are comparatively easy to express as both can be translated to a linear scale. Scope is probably better referred to as performance and is a complex combination of trade-offs. For example my cell-phone’s manufacturer has had to trade battery life, screen size and weight. Three factors in tension with each other. The combination they settle on influences my likelihood to buy which is their ultimate aim. All development and operational performance decisions are faced with having to balance multiple factors.

My phone’s manufacturer also had to balance component reliability and thus price with longevity. A quick failure rate will cause lots of warrant claims, a slower failure rate will cause lots of customer dissatisfaction when failure is around the point at which warranties cease or renewals are considered. Enormous reliability probably pushes cost beyond an economic threshold. These more complex questions of “what are the consequential impacts?” are Management of Change (MoC). MoC is often described as focusing on emotional consequences. MoC should include all ‘down-stream’ impacts. Not just emotions.

At this point we might say Cost is easy to quantify but value is hard and value is the combination of timing plus scope in feature terms and quality in reliability and attractiveness terms.

Long ago DSDM (Dynamic Systems Development Method) or these days Atern (and if that stands for something I don’t know what!) published the notion of MoSCoW.

We can decompose it and extend Atern’s observations as follows:

- Mo is for Must of; these are the factors that define elements that if missing are deal breakers. They are critical to declaring success
- S is for Should; these are the factors that are in scope by default but will be sacrificed if flexibility is needed. If a ‘should’ is on the critical path of an urgent project its likelihood of delivery is low. If it is off the critical path (so ‘float*’ exists) or the project is not urgent then its probability of delivery rises (at least from a “we have the time” perspective)
- Co is for Could of; these are the factors that are currently out of scope but will be first for consideration of inclusion if opportunity presents itself. A ‘could’ on the list of results due from a team working efficiently or ‘treading water’ waiting for others might add a could into their delivered results. Of course we have to be careful in our considerations to ensure that downstream impacts like integration, testing and through life effects are considered for both Should and Could.
- W is for Won’t and is for the avoidance of doubt that here is something outside the bounds of what is being considered under any circumstances.

*Float (also called ‘slack’) is the amount of delay a task can afford without affecting future milestones. Imagine a 2 day and 5 day task running in parallel and both prerequisite to something. The 2 day task could suffer 3 days delay without affecting what follows.

The items coded S and Co will align to milestones on the paths to key enabler event and therefore to Benefit delivery tests and therefore to Value Flashpoints. The evaluation of each S and Co item must be made in full consideration of the net affect on the investment's overall value case.

All the forms of change control that exist apply to the currently agreed baseline how ever that is defined. In an agile context that might be 'the best combination that you can manage in three months with 5 staff'.

In the traditional centralised command and control world 'Change Control' seeks to create a well defined and stable expression of project factors as close to project start-up as possible and maintain the balance with minimum variation through out. Sensible when conducting large scale, highly integrated, complex precision engineering tasks executed through a waterfall structured model **[[See Chapter 22 Ch 22]]**.

In this context Configuration Management and Change control are a single discipline concerned with baseline integrity.

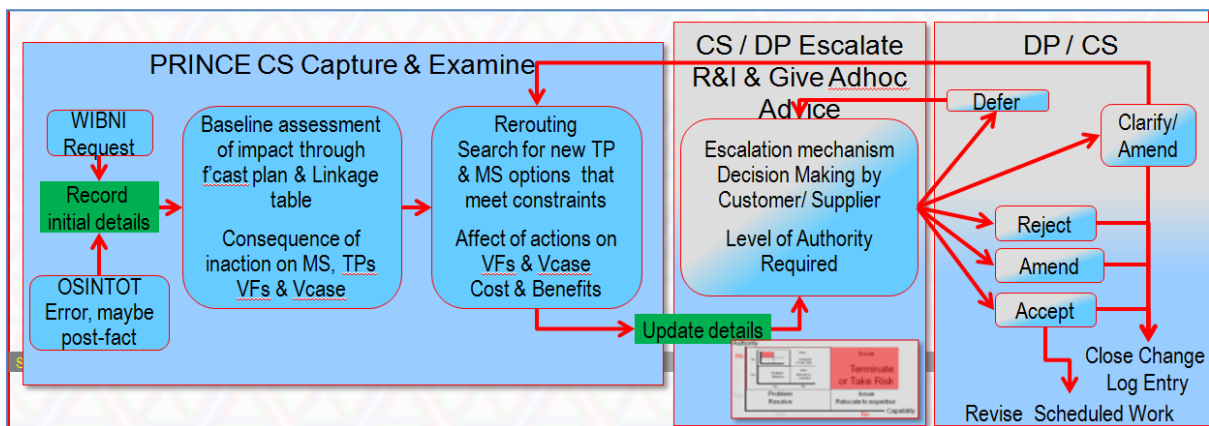
Thoughts on Application

The answer is perhaps simple. Match the approach to change management to the nature of the workstream.

The 'early and inflexible baseline' is probably entirely wrong and unnecessarily restrictive for (for example) a 'follow-the-fashions-of-market-trends' business. Or example a internet casino. Here a fluid "what shall we do next?" approach is better suited to the market place.

The Change Control process in a 'more traditional' environment contains the following steps

[[Ed Diagram needs some tweaks]]



- Whether we use agile or traditional approaches to allocation of work the question always is what capacity do we have a
- Record the fact that a change in some aspects of cost, schedule or and performance has happened or is of interest
- Communicate it to all parties and ask for reaction and interest
- Qualify and where possible quantify all aspects of current baseline impact

- Determine who has decision making rights and duties.

A development done under contract where the customer requests variation probably attracts a price variation so customer decision making rights. The processing of a 'change' to remedy a fault created by the supplier probably varies the margin made and thus sits somewhere between contracted obligation and supplier decision making rights.

- All change control decision making will either replace the current baseline with a revised baseline (change accepted), stick with the existing baseline (change rejected), modify the change in some manner and recycle the decision making or defer the decision or defer the implementation; often in the hope of grouping changes to defray overheads over a wider pool of changes.

In contrast an agile project builds baselines of only very short duration (perhaps a couple of weeks) and then insists on no change while the baseline is current! By maintaining an entirely fluid 'backlog' of demand that is re-assessed every time a new baseline is built flexibility via punctuated evolution is provided. The backlog is never closed and anything can be added at any time, Selection of what to work on next is customer directed at the start of every baseline definition.

In a scrum environment Backlog items are each decomposed to the level required to ensure that when selected then can pass through the value chain from work-not-started to Ready-to move on in a single cycle. Several cycles may be needed before 'Move-on' is 'into operations'. At the start of every cycle of development effort (say every 2 weeks or 4 weeks) the investor (or their agent) selects the next set of items to be worked on and accepts the granularity of the work-cycle's length as the degree of flexibility that they have.

Each work cycle may add features, remove problems or install operational capability. In a Kanban or Scrumban environment the selected backlog items are pulled onto the work in progress board as team capacity permits [\[\[See Chapter 22 Ch 22\]\]](#).

Scope Creep

Before we move on we need to address what is probably the most insidious, most overlooked and nearest to a real example of scope creep; team motivation.

Motivated teams build energy and momentum. Commitment brings the team to the point where they strive for the best job that can be done but where 'good enough' is what is required. The WIIFT or attractor [\[\[See Chapter 17 Ch 17\]\]](#) at work is team pride. Scope creep or technical team members adding 'neat stuff (that then has to be tested, maintained, managed etc)' is the cause of run-away costs & schedules. A major cause is when estimating allows people to allocate more time than they believe they need on a task. The seemingly spare time is spent enriching what did not need to be enriched. Appropriate quality control (testing) at handovers that asks "What is missing, wrong and extra?" will resolve this cause of true scope creep [\[\[See Chapter 23 Ch 23\]\]](#).

Key Points

- Change management is control of baselines and baselines are the balance of capability, benefit, schedule and costs in acquisition and ownership.

- You can either tend towards an extreme of “one big (early) baseline” or “repeated creation of mini baselines”. Your choice must reflect the nature of the technical work and the market place.
- Management of change considers how to respond to the triggers that cause projects while change management considers how to maintain an agree description of how to deliver the response to the trigger

See elsewhere in this book

3-5 other book chapters

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PRINCE2 2009 Chapter 9

ITIL Service Transition Section 4.2 Change Management ISBN 9780113313068

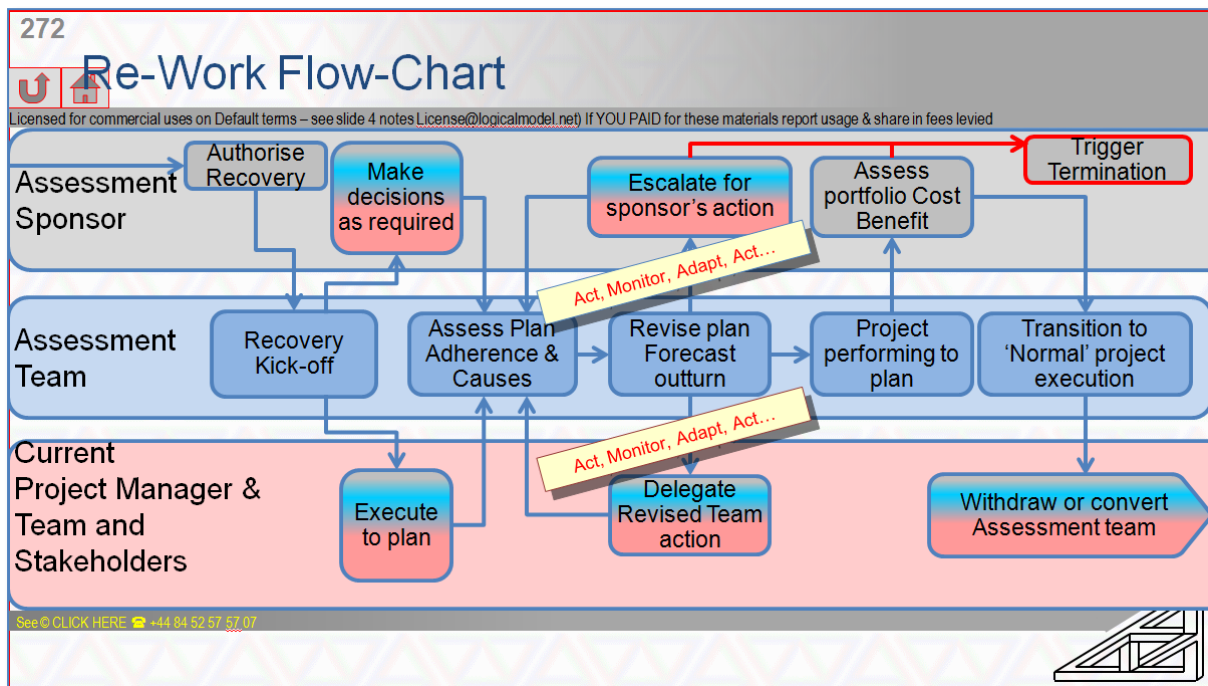
COBIT5 BAI-10 COBIT5 Enabling Processes Build, Acquire, Implement p167-169

Further reading

“Competencies for Managing Change “. Lynn Crawford, Anat Hassner Nahmias International Journal of Project Management

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[[Ed Diagram probably redundant]]



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22 I promise not to exclude from consideration any idea based on its source, but to consider ideas across schools and heritages in order to find the ones that best suit the current situation.

Long title! This chapter's title is the Oath of Non Allegiance, proposed by Alistair Cockburn. It is a reaction to some communities, most noticeably the Agile community to 'dis' everything that isn't 'local'. That is not only to disrespect but to dismiss, generally with bias and from ignorance.

Methods for management have increasingly been struggling to remain adequate at the same pace as changes have affected the world. An area that particularly struggles is Project Management.

I guess it is because project management has not performed well for so many people for so long that new approaches are currently legion. In fact, mostly they are old ideas; the vocabulary and contents is rehashed to make something new. Rehashing the contest frequently confuses the boundaries between concepts. Frameworks and life-cycles are two such areas.

Causes

At the risk of being horribly simplistic the heritage of much management assumes the control by a small and well educated class of a much larger and less educated workforce performing tasks of a relatively low intellectual content. That clearly does not match the reality of the last 20 years if not 30 or 50 years.

The reality now is that the 'lowest levels' of many workforces, make decisions that their management is unable to make a technically informed contribution to. Big data, nanoengineering and the web of things where your mobile/ cell phones is connected to your home heating controls, a credit card transactions requires no physical contact and Web 2.0 content is beyond static into dynamic, interactive and social; both specialism and connectedness have increased radically.

The complexity of the world has increased beyond the ability of 'plan in advance' and 'hierarchical command and control' to work across all needs. The reaction from some, I suggest less experienced members of the Agile communities is to vehemently discard all previous wisdom.

There are at least two mistakes in that response;

- Old methods are very well suited to a wide range of needs; they just are not right for all needs.

The observation is equally true of newer management methods based on Complex Adaptive Systems thinking [\[\[See Chapter 16 Ch 16\]\]](#) the (often unacknowledged) source of agile's models.

- Both old and new approaches are focussed on the old problem of controlling the engineering development cycle that delivers outputs.

Doing a better job of building the wrong thing does not help success as we defined it in [\[\[See Chapter 3 ch 03\]\]](#). Being more able track the customer's 'random walk' as they explore markets has added tools that better address the tactical need in contexts with a need for agility but we still have an omission in the area of tools to address the strategic.

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Two things are confused in most discussions about traditional and agile methods. One is the control structure and the other the product development life-cycle.

Remedies

Agile is useful but not universal. Traditional is useful but not universally. Both together are less than 100% of our needs because both are essentially 'of the engineer' rather than 'of the business' or investment oriented. They are both expenditure focussed without thoughts of a business case beyond describing costs.

Frameworks

A famous agile framework is scrum. This is a prescription of the steps in product development. The rational is to divide development into small iterative cycles. Each cycle concludes with something usefully on the way to the end point. The benefits of the approach are that it is incremental, adaptive and reactive. It can be stopped without total write-off of effort spent. It suits an approach of "do the most valuable first and stop when we run out of time or money". It also has drawbacks.

Another famous framework described as 'traditional' in the sense of a linear walk through the product development steps is PRINCE2 (p2) [\[\[See Chapter 27 Ch 27\]\]](#). This is ill informed and unfair. I say unfair because p2 is a container for any form of product realisation structure you wish to use. P2 simple references the fact that each management layer has an interface above and an interface below. Ackoff's Purposeful Systems again [\[\[See Chapter 16 Ch 16\]\]](#).

If one interface uses Agile Portfolio management [\[\[See Chapter 12 Ch 12\]\]](#) upwards and the other is Agile product development downwards (for example scrum) it makes no difference to p2's implementation as a control structure. It is the hype and froth of Intellectual Property owners selling their own version of the truth that accounts for so much misunderstanding.

Framework are useful if we understand their purpose. A framework always imposes an overhead just like any insurance premium. A framework reduces flexibility; both p2 and scrum are highly structured. Frameworks create a common process model (Shared Mental Models again [\[\[See Chapter 2 Ch 02\]\]](#)). Frameworks embody concepts in procedures and predefined information flows. They give vocabulary to describe it all, roles to enact it all and most importantly interfaces to halt the unwanted ripples of connectedness.

Interfaces allow us to chunk problems so we reduce complexity. Frameworks are always compromises, are never universally applicable, rarely require every element in any context and rarely work 'out-of-the-box' in any context. To use a framework you typically need the base concepts separated for understanding even if combined for use. Frameworks are sold as universal panacea's; they are not. A claim to be a universal solution places other solutions as the 'competition' not for collaboration. Modern marketing is very adept at misleading truths. "Nothing washes whiter" is not equal to "we wash whitest.

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Control, Development, Life-Cycle & Life-Span

A lifecycle is a succession of steps or stages that follows the logic of something's maturation. In project's we are interested in two classes of life-cycle: The products' or deliverable's or impacts' or result's or investment's whole life from idea through development and use and finally disposal. This is a life-span. It includes the development phase which is where projects are focussed on a development life-cycle. The UK Ministry of Defence label the whole of life sequence with the acronym CADMID. It covers the few decades between Concept, Analysis, Design, Manufacture, In-Service (the bulk of the time frame) and eventually Disposal. In service accommodates many adapt, refine, maybe repair projects that once again follow the product development life-cycle. Once upon a time the p2 manual made the distinction clear. Sadly and mistakenly the term was dropped in the 2009 'popularisation'.

The other lifecycle we need is the control cycle imposed on each step of the life-span's cycle. The control cycle can repeat in total every couple of weeks at the 'Agile' end of the spectrum or turn just once across years of activity (think of the years spent in drug trials or the decades spent building major structures like pyramids). Inescapably the control cycle runs Initiation, Planning, Monitoring (and so responding and thus Controlling) and then Closing. The PMBoK-Guide, scrum and p2 are all built around this core. The control lifecycle is applied to the current step(s) of the product's life-span.

In editions to date the PMBoK-Guide assumption is that 'to plan' you must state in advance the actions to be taken by who and when. Then you work to the schedule. An alternative is the Complex Adaptive Leadership approach where you state goal and constraints, establish communication paths and attractors, trigger change and monitor the emergence of good and bad consequences. The key difference is the balance between thinking through future actions to place in the plan versus monitoring to detect what arises and react fast enough. The later benefits from short cycle times, hence 'Agile' (at least in terms of process mechanics) really should be 'iterative'.

Thoughts on Application

Approach all frameworks with the presumption that they are useful. Every one has some insights of use and none are actually a panacea.

Understanding a framework is the opportunity to LfE (Learn from Experience) of others. If experience is gained from mistakes isn't it nice to have the gain without the pain?

Any product's development steps can be structured in two polarised ways. After the polarise there are always a host of half-way house hybrids. The extreme choices are either to do all the assessment of what (requirements) before any design, then when design is complete do fabrication and acquisition increasingly including integration activities until eventually arriving at system proving and then acceptance demonstration and hand-over into operations. At this point we start all the most important life-span steps eschewed and ignored by 'old engineering PM' in traditional and 'Agile' guidance; bringing product use upto full-speed delivery of benefits.

This approach has lots of advantages and drawbacks. So do all other approaches. The 'Whole of each development step before the next step' is called the waterfall model. Winston Royce described the

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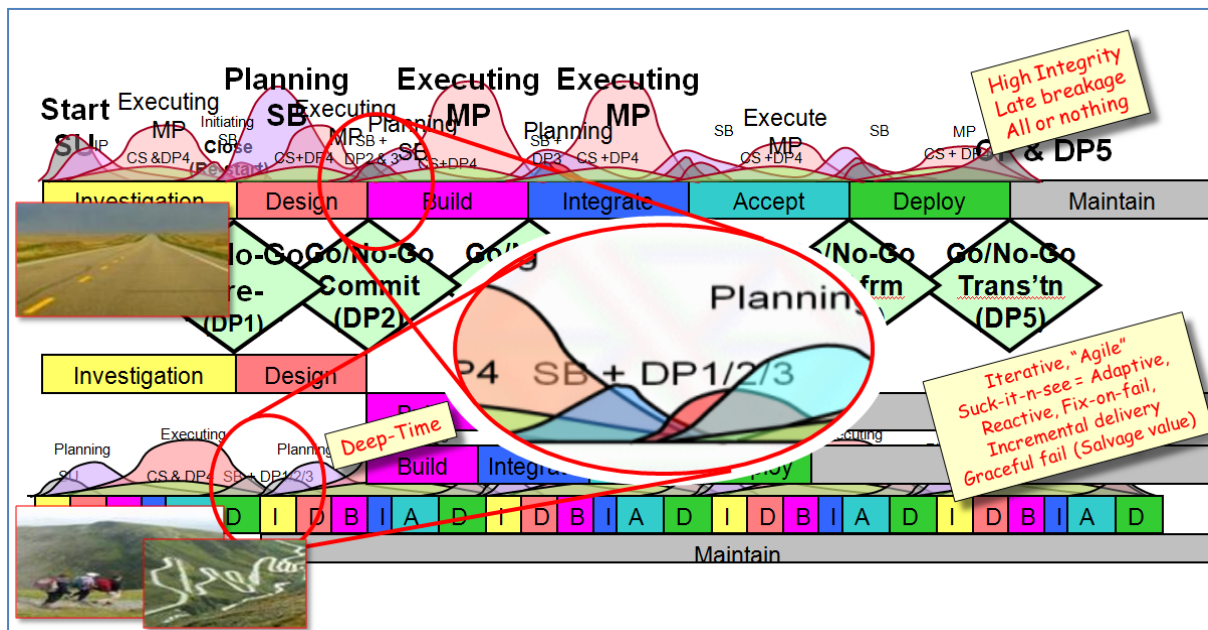
process in 1970 where contrary to folklore he said a single pass is unsuitable in any but small projects. Royce is attributed the 'invention' of the waterfall approach. Ironical. The 1970 paper doesn't use the term waterfall at all yet says in one way or another "iterate" 4 times

The pros and cons of the waterfall product development approach are

- All other factors equal it is simplest so cheapest and fastest.
- Once design is complete it demands the least skilled people making the least number of situational decisions
- It is capable of creating the highest integrity products
- It only works if before you start you know what you want and how to get it.
- It is the easiest to control when it runs to plan (which is easy to produce because you know what you want and how to get it)
- It is the most expensive and least response if you change your mind and gets increasingly expensive as you change your mind
- Errors in previous stages have escalating impact as they pass down-stream
- The customer doesn't see if what they described was what the developer understood until all the time and money has been spent.
- If you declare failure part way through you end up with just a bill and no value
- If you run out of money before you finish you get nothing for what you have spent
- Very few of the world's problems fit this template ideally
- Despite Phillip Crosby's exaltations "Right First Time" is only, actually "Right the 101st time but we won't count the previous 100 as they were 'prototyping'"
- It works equally with intellectual tasks and physical tasks (Indeed civil, mechanical and marine etc engineering can only use this or hybrid approaches)

The 'waterfall' or design first approach is a PRODUCT development cycle each step of which uses the project controls of Initiate, Plan, Control and Close.

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[[Ed we will need a simpler picture! Maybe build here and Ch 27]]

The opposite end of the spectrum is what Tom Gilb has practiced as EVO since the 1960s. Agile or iterative approaches are the exact opposite to 'waterfall'. Instead of 100% of scope passing through each lifecycle step together the smallest useful subset of scope passes through all steps, then the next chunk of scope passes through all steps. Customer feedback is available much earlier with this approach. Learning from Experience (LfE) [\[\[See Chapter 6 Ch 06\]\]](#) helps to refine future cycle through all the steps with the next component of scope.

All other things equal we will deliver exactly the same scope. The pros and cons of this approach are:

- It can be implemented so that when ever you stop your likely to have something to show for the expenditure (it fails gracefully when you run out of money. Given people's estimating skills [\[\[Ch 28\]\]](#) this is a justification all on its own)
- You don't need a complete vision of where you are going before you can start
- You don't need a complete vision of how to get to your goals before you can start
- It suits human nature's predisposition towards step-wise refinement over right-first-time
- All other factors equal it has the most activity interfaces so handovers so minor stops and starts so makes the heaviest demands on configuration management [\[\[See Chapter 31 Ch 31\]\]](#) and consequently tends to be slower and more expensive at completion compared to IF you could have achieved the result via a 'waterfall approach' – typically you can't
- It is very well suited to tracking an evolving market place, evolving requirements and or an evolving development method
- Because requirement and or design may be evolving (note MAY, is not HAS TO BE) it is most prone to early choices being invalidated later and requiring replacement

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1. Coping adequately with a greater number of situational decisions increases complexity which generally requires more competent (and thus rarer, more appreciated and thus more expensive staff).
- Changing your mind or fixing mistakes is generally quicker, easier and cheaper due to the frequent and incremental integration and demonstration steps
- The approach only works if the product is symbolic (like designs and software, not if it is physical like aircraft or national transport infrastructure.
- The investor can be given the role to select 'what next?' based on value and priority
- The approach has benefited from the Key enabler event effect described by Malcolm Gladwell. Agile has entered 'popular' culture buoyed on with a faddish zeal that supposes it to be a suitable solution even when it is not.

Key Points

It is ironic that Royce said "we must iterate" yet he is known for the waterfall model.

It is ironic that the agile community's founders recognised there is value in all approaches yet many of their 'followers' dismiss any value from "the items on the right (below)". The Agile Alliances manifesto is:

"...we have come to value:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more."

To deliver value use an agile, kanban based approach to portfolios [\[\[See Chapter 12 Ch 12\]\]](#), place program management in the hands of the business' operation management with a whole of investment outlook, control projects with a mix of predictive and reactive controls that understand when sufficient planning has been done and sufficiently reactive approaches are in place and use product (result) development life-cycles matched to the market-place, the team's abilities [\[\[See Chapter 32 Ch 32\]\]](#) and the organisation's culture [\[\[See Chapter 38 Ch 38\]\]](#).

See elsewhere in this book

3-5 other book chapters

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"Big Data: The Management Revolution". Andrew McAfee & Erik Brynjolfsson, Harvard Business Review October 2012

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“Agile Software Development with Scrum”. Ken Schwaber and Mike Beedle, ISBN-13: 978-0130676344

Tom Gilb <http://gilb.com/Project-Management>

“Quality Is Free: The Art of Making Quality Certain: How to Manage Quality - So That It Becomes A Source of Profit for Your Business” Philip B. Crosby ISBN-13: 978-0070145122

"Managing the Development of Large Software Systems" Winston W. Royce WesCon, Papers of Western Electronic Show and Convention August 25–28, 1970

PRINCE2® www.axelos.com/prince2

Russell Ackoff see [\[\[See Chapter 2 Chapter 02\]\]](#)

CADMID <http://www.modaf.com/files/MODAF%20Acquisition%20Deskbook%20v0.9.pdf>

PMBOK-Guide extensions

- Construction Extension to the PMBOK Guide ISBN-13: 978-1930699526 as does the US Department of Defence and others.
- Us Department of Defense: A Guide to the Project Management Body of Knowledge ISN 9780756737221
- [US] Government Extension to the PMBOK Guide Paperback – 30 Jun 2006 ISBN-13: 978-1930699915

Further reading

Lean and Six Sigma also have toolsets and process models to offer.

- “Lean Thinking”. Womack and Jones ISBN-13: 978-0-7432-4927-0
- “The Machine that Changed the World”. Roos, Joes and Womack, ISBN-13: 978-0-7432-9979-4
- “Lean Six Sigma For Dummies”. Morgan and Brenig-Jones, ISBN 978-1119953708

A project management framework in the not-for-profit sector is PM-4-NGOs (www.pm4ngos.com and on linked-in).

Project management competencies rather than tools sets are ably described in the GAPPS* Standards. (<http://globalpmstandards.org/>) *Global Alliance For Project Performance Standards.

The IT industry is full of frameworks, toolsets and process models such as:

- ITIL (www.axelos.com/itil),
- COBIT (www.isaca.org/cobit/) and
- TOGAF (www.opengroup.org/togaf) and others.

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23 Truly Tracking Status - [[Mechanics of EV & ES]]

When done right this chapter's concepts are really all about estimating. Most organisations haven't got a clue.

Does your organisation collect time-sheet data? Many do. On its own it is utterly useless for project status tracking.

In isolation time-sheet data's only use is for billing customers against time and materials contracts. Another example of how bias in thinking surfaces from supplier influences.

As long ago as the opening of the previous century Frank and Lillian Gilbreth ran a management consultancy whose advice included 'Earned Time'. Somewhere in the Minuteman ICBM* program these ideas moved towards 'Earned Value in the Cost/Schedule Control Systems.

*Inter-Continental Ballistic Missile

Clearly the principals that are still largely overlooked in many project tracking systems have been known for a long time.

Booking time spent, resources used and costs incurred only becomes useful for gauging project status when combined with knowledge of what has been created! Projects create results and measures like hours booked are counting the inputs not the outputs. With disregard for process efficiency input says nothing about output.

Targeting 'Conformance to Specification' (C2S) is the supplier's only option. It works fine when the specification describes the customer's true needs.

The customer's only interest is in something truly 'Fit For Purpose' (FFP)

Aligning FFP to system, component and development process standards is a major challenge and it is the pre-requisite for reliable estimating and for tracking status and ultimately for success.

When you measure what is coming out you know something useful about where you are and where you will end up.

The really useful status tracking 'stuff' is the summary of all the quality control (QC) activities that prove 'done' in terms of C2S (Conformance to Specification).

'Doneness' must first be defined with the customer in terms of FFP (Fitness For Purpose). The customer is the only arbiter of "acceptable" in FFP terms. FFP must be 'of the integrated system'. Where relevant defining 'FFP' may need to be extended to each or just some of the component parts (Configuration Items [\[\[See Chapter 31 Ch 31\]\]](#)) of the whole result.

Measurement's challenges start with the customers not being able to articulate their targets and continue with the difficulty in expressing system fitness for purpose through specification of discreet product standards. Development teams can only target C2S (Conformance to Specification). Classically these challenges are Quality Planning's territory [\[\[See Chapter 13 Ch 13\]\]](#). After the end result is defined [\[\[See Chapter 8\]\]](#) and [\[\[See Chapter 13 Ch13\]\]](#) the development processes'

standards can be selected. Another challenge is projects that build components when the business needs a socio-technical system.

Thoughts On Application

[[Ed could be an annotated flow chart to capture the floating buyer]]

I'll start with a leaning towards predictive ('waterfall') approaches before examining the iterative ('agile') approaches to establishing the yard-stick to measure against. The logic chain is:

- Sponsor describes the business capability in end point (test/ Change Exit Test Tests (SMT)) terms [\[\[See Chapter 8\]\]](#)
- Operational and technical managers/ designers/ architects decompose through Tipping-Points (TP) and milestones by back casting [\[\[See Chapter 13 Ch13\]\]](#)
- Technicians forecast the materials, facilities and effort to deliver the milestones by creating estimates [\[\[See Chapter 28 CH 28\]\]](#)
- Unit costs, resource allocation and hence task durations are calculated and dependencies mapped, work stream durations determined [\[\[Relevant product development processes plus industry frameworks such as Scrum and PMBoK\]\]](#).
- Budgeted costs and scheduled progress predictions are plotted as an Agile Burndown chart or a Performance Measurement Baseline (PMB), take your pick. [\[\[This Chapter\]\]](#).
- We can fix the duration, assess what we think we can deliver, monitor, establish 'velocity', plot our rate of 'burn down' and control from that or take the scope suggest a balance of resources and duration, plot expected and actual achievement and control from that.
- Those involved in developing the required future company behaviours and for developing the supporting (if any) technical outputs perform their tasks and apply in-process quality control to deliver reliable results and the proof of achievement versus standards selected. We usually call some aspect of confirming results meet specification 'testing (or review)'. It is testing's audit trail that gives us real 'doneness' data.
- Components made or acquired are integrated and tested as sub-systems and systems against performance targets and the proof recorded. Note the purely technical work delivers some milestones, the social and behavioural preparations delivers other milestones. The combination delivers the Tipping-Points (TPs) and the embedding of new behaviours delivers the Benefit delivery tests [\[\[See Chapter 13 Ch 13\]\]](#). The chain of deliveries in time results in the benefits flows which is what 'Value Earned' means in everyday speak. But (true) 'Value' has nothing to do with 'Earned Value's' definition of 'Value'. Here 'value' means 'predicted progress in cost of development terms'. In Earned Value the 'EV' is just overall 'percent complete'.
- Provable development results are aggregated and compared to intended results. The variances inform our project investment tracking [\[\[See Chapter 26 Ch 26\]\]](#) of any need for course correction.

What is crucial is to recognise that assessment of status is anchored in knowing the business' target in terms that can be tested for 'done'. Those terms must speak to the organisation at each of the

levels from boardroom to boiler room [[Ed can I™ that as Mine?]]. ‘Speak to’ means supports expressing incentives (Attractors) at each level [[See Chapter 17 Ch 17]]. We don’t and probably can’t use the same terms at each level because different incentives apply at different levels.

At the lowest levels the technicians generate Work Performance Data (WPD). WPD needs to be contextualised (PMBOK-Guide distinguishes contextualised data by calling it Work Performance Information (WPI)) and aggregated (PMBOK-Guide now calls it Work Performance Reports (WPR)). Work Performance Reports drive decision making. There are 221 references in the PMBoK-Guide 5th edition to work performance in these three guises. They are as relevant in agile as any other development environment. Agile renames ideas such as “Performance Index” to “Velocity”, sets the duration instead of scope as fixed but the control need and decision making are the same.

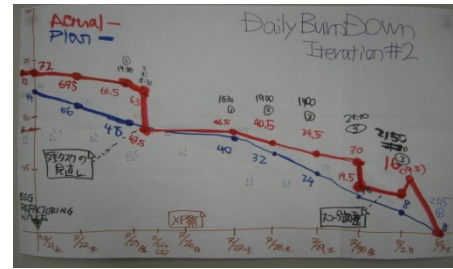
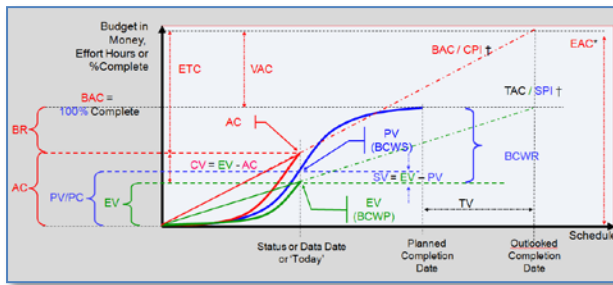
A Good start within the PMBoK-Guide is perhaps page 567 (glossary), then p59 for the descriptive overview before focussing on the control activities of Cost and Time Management and Project Integration Management. A good start in Agile terms is either Dr Robert Van De Velde’s 2014 Article in the Measurable News “Earned Schedule For Agile Projects” for tracking or Schwaber and Beedle’s Agile Software Development With Scrum for the whole framework.

Earned Value Management or EVM’s (“Ee Vee Em’s”) unintuitive cognitive learning burden is that it is swamped in initials and formulae and uses the word ‘value’ in a way most of us don’t recognise. EVM reads all variances in performance off of the vertical axis of an EV chart. The vertical axis in Department of Defence speak for projects like Minuteman was US Dollars; even schedule delay is expressed in money. That throws people straightaway. Schedule delay in money is partly cleared up in one of those academic paper traditions that I don’t understand. A point that seems too obvious to need to be stated was made separately.

Everyone who ever looked at an EVM graph can see immediately that we could read the horizontal axis and get earned schedule analysis too. That schedule dimension versus outstanding work is precisely what a burn down chart emphasises. This blindingly obvious point was well made by Walt Lipke in what is now a very quoted paper: “Schedule is Different”.

If we take the two perspectives of EV and ES (Earned Value and Earned Schedule) and we understand “Measure achievement, compare to baseline expectation” we have a very simple, easy, reliable, meaningful system for status assessment. A system that works just as well in Agile, iterative, time-boxed approaches to developing outputs as to Design first settings. Agile’s backlog based iterative bursts of activity bring their own application specific calculation, interpretation and Agile’s habit of drawing a Burndown rather than an ‘Earn-Up’ graph adds an alternative graphical representation but it is cosmetic rather than significant to use.

[[Ed I the Burn Down is CC2.0 – from <https://www.flickr.com/photos/kakutani/2761992149/> by <https://www.flickr.com/photos/kakutani/> - I have NOT made contact]]



Caption: EV is full of off-putting initials and formulae. All that is really needed is to ask “is the green line on the blue (good schedule progress) and on the red (good cost performance). If not what explains the variances? Green above red or blue is better than expected, green below is worse. Both need understanding and may warrant taking action.

Key Points

When we build our baseline of schedule versus cost we might draw a horizontal axis for a two week sprint or a five year program. We might draw a vertical axis labelled between 0% to 100% or labelled by number of backlog items or number of Statement of Work paragraphs or budgeted in either \$£¥ terms or staff hours.

Every which way you set it up we now have progress towards required outputs on the vertical, duration on the horizontal, the means in our estimates **[[See Chapter 28 Ch 28]]** to place ourselves on both scales and extrapolate a ‘what is to go’ and ‘where will we be at completion?’

Always report achievement. Never report consumption of inputs in isolation of generation of outputs.

See elsewhere in this book

3-5 other book chapters

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Top

24 Progress Reports & in-stage in-tolerance control - Telling it like it is WPD, WPI, WPRs

Is progress reporting a simple topic? It should be but it is made into a complex, unreliable chore with negative value by many organisations. Reliable decision making is a Critical Success Factor **[[See Chapter 19 Ch 19]]**. Decisions rest on timely and accurate status data.

In the Spring 2014 MIT Sloan Management Review professors Keil, Smith, Iacovou and Thompson's article "The Pitfalls of Project Status Reporting" list five "Inconvenient truths". Paraphrased their list becomes ; what is in the reports isn't trust worthy for a whole bunch of different reasons and even if it was executives do not necessarily act on it". They also note that auditing the reporting process doesn't help and worse yet putting a senior executive in charge who is visibly championing a project causes those below to keep quiet about problems and distort reports. Its attractors again; the thought of a career limiting bit of truth wins out over convenient omission or careful phrasing.

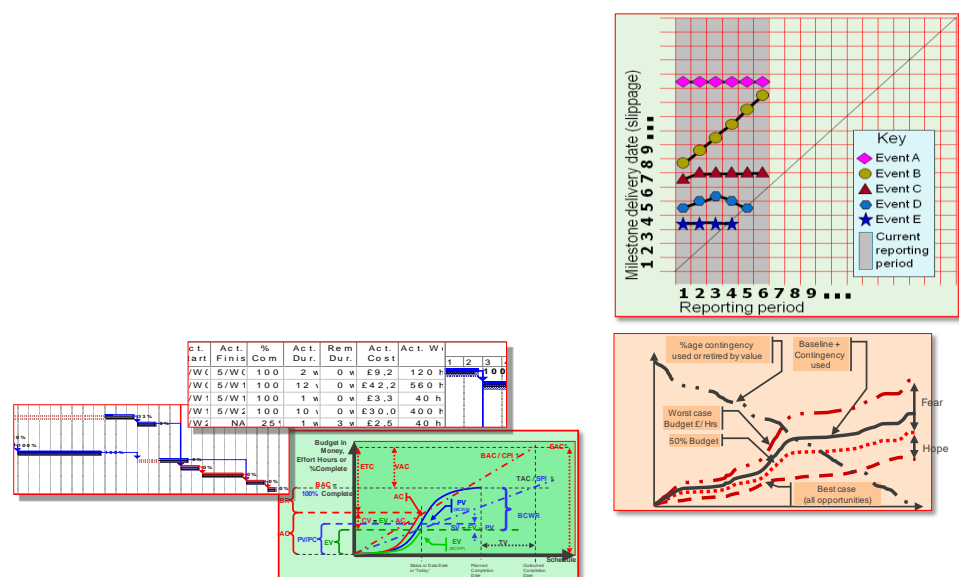
I covered in **[[See Chapter 23 Chapter 23]]** that the PMBoK-Guide labels status facts as WPD, WPI and WPR; Work Performance Data, Information and Reports. Data is raw figures from the activities under management. To be reliable WPD is always and only in the terms of the trade producing the results, eg meters of trench dug. Information is the analysis and synthesis of meaning in context. WPI is often in parentages, 'velocities', variances and performance indices. Information requires juxtaposing status data with baseline data. Reports are the aggregation and formatting and presentation of decision needs with options and recommendations based on the meaning of the information.

Every status report handover on the way up the organisation is likely to massage out the less career enhancing aspects independently of cause or fault. If it is outside my control and less than best I'm still not going to report it as such for fear the recipient believes I should have controlled it.

While PMBoK-Guide offers good guidance on the data's transformation into decision support reports it includes less on timing and flow. P2 on the other hand gives us the headings, timings and flow guidance but has

next to no guidance on how to populate the templates.

Between them they are a good marriage. Agile methods don't displace the usefulness of these two. Agile's formats like backlogs and burndowns,



Jump [To the TOC](#)

theory of constraints data like buffer usage simple extend ideas on how to draw the visualisations of status.

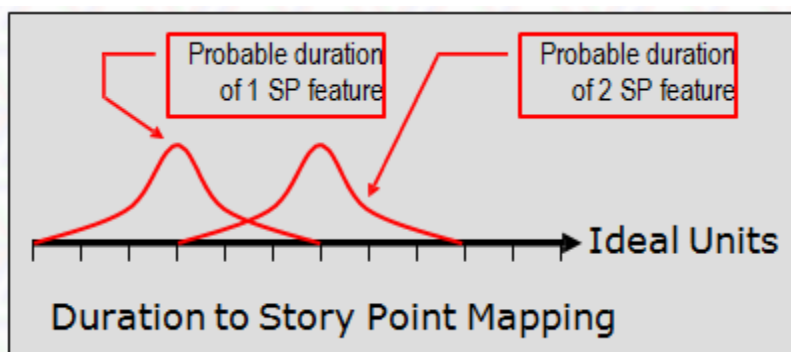
A purpose of frameworks and project management offices is to provide guidance in consistent reporting to make aggregation at the portfolio and company level practical. The historical context to the SOX or Sarbanes Oxley legislation is reemerging in the Integrated Reporting movement. Projects as investments increasingly need to report the decision making data to run the development (acquisition in all its optional forms) activities, the implementation and benefits flow and the overall status against all forms of organisational, and in aggregate societal capital.

Thoughts On Application

Key reporting insight number one is that the only place there is any real status data is at the 'coal face'. Incentivise timely, faithful, accurate reports. The challenge is to not incentivise the manufacture of bad information to win an honesty award.

All WPD is data gathered from quality control activity. It should be in units of the trade and link directly to the basis of estimate that established sprint story points* or stage/phase resource requirements. It should be auditable against the teams C2S conformance with work standards and the confirmed FFP fitness for purpose versus product standards.

*A story point is an 'idealised' uniformly sized 'chunk' of what is to be done. Some chunks of work are one story point and some are more.



Key reporting insight number two is that writing reports has no value; it is acting on what you read that has value. Don't ask anyone to write anything that doesn't require a response. P2 espouses a principle called "Manage By Exception". The concept of Management by exception says that effort is spent creating then approving a baseline. The baseline's definition includes the maximum acceptable variation to scope, duration and resource consumption. Inside those limits agreed authorities persist. External decision making and so reporting is only required when there is an outlook of a variation beyond the agreed tolerances (plus or minus).

P2 actually lacks the strength of its own convictions and maintains routine reporting. It does however halt routine meetings. If we follow the same rigor we then do expect reporting. Here again we align with Ackofs's observation of layers of purposeful systems above and below each level of the management hierarchy [\[\[See Chapter 16 Ch 16\]\]](#).

Several times I've referred to the organisations layers. At the top is Direct – set Strategy or Vision that defines the desired future status quo, the middle is Manage – implement the strategy or follow tactics that maintain current status quo. The base is Delivery. Delivery either cycles capital employed through routine operational procedures to deliver benefits streams from current capabilities or is project activity that transforms capital to develop tomorrow's operational ability.

The top layer's inputs are market conditions, mission and values and their output is objectives. The middle layer's inputs from above are objectives and they cascade operational or development instructions downwards. The bottom layer undertakes delegated tasks.

Key reporting insight number three is that reporting from the bottom to the middle should be of activity undertaken. From the middle to top reporting must be about capability created. IE results achieved. In p2's 2005 edition of the manual the rule "receive activity reports make achievement reports" was very clearly defined. The 2009 'popularisation' initiative eroded what was excellent advice.

Key reporting insight number four is that all status data expresses performance versus baseline. The ratio is either 1 to 1 or there is a variance from expectations. Where a variance is other than provably one off then it must drive an adjustment to the basis of estimate **[[See Chapter 28 CH 28]]** for work to come. If the backlog is 4 units, current duration estimates result in an expectation of 4 weeks and velocity is shown to be a half then expectation must be reset to a duration of 8 weeks.

Report Contents

The contents of a status report should be three parts

- Part one) "Dear Boss what I need you to do as the accountable person to enable me to succeed in delivering your delegated targets is..."
- Part two) List of work coming next or results due next,
- Part three) disposition of last period 'next' as either done, retained in part two as 'still due' but with out impact to future outcomes or shifted to part one because of (potential) impact on tolerances.

Responding to Status

Of greater importance than creating reports is receiving them. On receipt of a report the accountable person must always look at what the responsible person requires to be done for successful delivery. Then they should take action; generally by doing what was asked for. Experiences shows that isn't always the actual action taken.

Report Formats

Any format that is graphical has the potential to convey status rapidly. Graphical reports must always be accompanied by the raw data that gave rise to them or a useable signpost to the data. Graphics can be hard to read but raw data should always be legible.

Any format that uses 'traffic lights' should be based in a rigid definition of factors that lead to a red, amber (yellow) or green status. Give consideration to the ideas that; 1) projects should permanently

hover around amber, 2) communicating an approaching red status should never be delayed by a reporting date or finding a solution before being raised but a 'return to green' plan is always a bonus, 3) irrelevant or past factors should not be included as Green. Use blue for complete/ past and neutral grey for irrelevant. Anything likely to be printed in black and white should use an initial letter as well as the traffic-light symbol.

Key Points

Receive status as activity, provide status as accomplishment

Don't report anything not already required to run the project/ investment. If it determine status then it must be reported

State the source, reliability, volatility and sensitivity to error in status data

What you use to identify that an intervention is required probably is not suitable for determining what action is required

See elsewhere in this book

3-5 other book chapters

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Further reading

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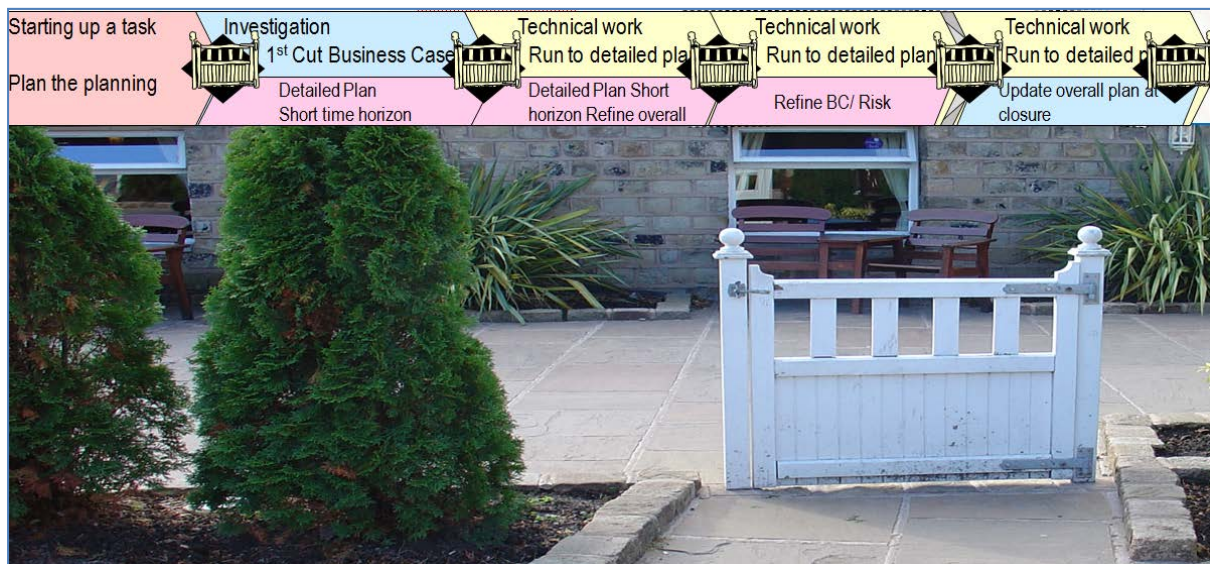
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25 Building DSPs & Guide to Phase Reviews

A DSP is a Decision Support Package. Project management's most commonly envisaged DSP is the Business Case. Thought about what content is needed, how the content is prepared and the evaluation process results in greater prospects for investment success.

The content needed has to answer the question "is it OK to move on?" We do that in part by asking: "are we (still) on the right journey?" and "if we compare progress so far with initial expectation and work outstanding then what is the projection?" we need to know "how do we conduct the assembly of the input report and conduct the decision making?" in [\[\[cSee Chapter 27 Chapter 27\]\]](#) we will examine the decisions made in sequence along the journey.

We routinely generate work performance data from an investment's activity [\[\[See Chapter 23 Ch 23\]\]](#) and [\[\[See Chapter 24 Ch 24\]\]](#). The resulting performance reports support the decisions that halt or progress the idea's journey through stages of proposal, evaluation, development, deployment and benefits stabilisation.



An alternate definition for a project is "a temporary decision making architecture (DMA)". That DMA is created or separated from the operational decision making for the duration of and to focus on change.

The required decisions must be made along many axis of discretion:

- Each product related discipline has product development decisions to make,
- there is the investment phasing perspective to consider and
- 1. the operational or commercial aspects.

As well as these three perspective there are two temporal directions. The main one is 'Look forward'; It answers "are we ready to move on?" the other is Look back; it answers "Have we done what we need to/" and is different to the often quoted "Have we done what we said". This latter question is only appropriate when what we said was right and was said in a stable unchanging world.

We shall take the perspective that an organisational change (whether called program or investment) has a single Decision Support Package comprised of many components all of which mature over time. That is not how we have to structure it but the information does mature and there are distinct threads.

‘Mature’ includes the idea that our estimates improve in precision at some consistent level of confidence about their reliability. These words are to avoid the word ‘accuracy’ or ‘accurate’.

Thoughts on Application

As we approach each gate the collection of items that is the Decision Support Package should be assembled by those best placed to collect data, feelings and opinions. Different roles for different information sources.

They may analyse what they collect or may pass it to others to perform the analysis. The DSP’s components must be presented to independent evaluators who are as able as is possible to analyse the inputs and synthesis and then express an opinion and recommendations. It is the recommendations that are the decision support.

Analysis of the product, phase and commercial data should range across; “in error”, “correct, complete and reliable”, “plausible”, “possible”, etc. Conclusions and recommendations might range across “Clear actions to progress are... because...”, “possible options and their pros and cons are...”, “way forward unclear because... so...”, “Stop because...”.

Those synthesising conclusions then present them to the decision maker. Many sources propose that the ultimate decision maker is a Single Point of Accountability, perhaps with a supporting committee that evaluates recommendations and expresses opinion from some perspective.

The Gateway Review’s timeline and steps probably runs something like:

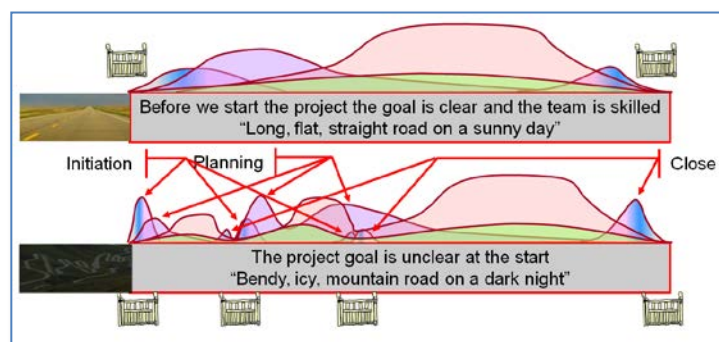
- During quality (and thus scope) planning determine what product maturity questions are relevant, who will judge them and when. ‘When’ may be time based or event based. ‘Who’ needs to be person based at some point but could start-out skill/ role based.
- On approach to the review point at an appropriate lead time gather the reviewer’s inputs. P2 for example says the review chair checks everyone is in position and the product’s producer makes the product available for review. Some organisations suggest 20 working days lead time. Organisational culture as informed by ‘market-place’ volatility dictate if 20 hours or 13 weeks is more appropriate.
- Depending on formality of review as dictated by review methods such as Fagan Inspection, Structured Walkthrough or to Peer review* gather and collate comments, prepare and distribute responses perhaps by holding a workshop.
- Confirm reviewer’s satisfaction with explanations and proposed actions. At this point we have a view of the maturity of the project’s products. No benefits in operations will be possible without the project’s technical and social outputs being first produced and then combined into an operational capability.

- At this point reviewers can express opinion that contributes the product maturity strands of the three themes in a Decision support package's contents.
- In parallel with product reviewers preparing conclusions the product producers may be taking actions to resolve unsatisfactory responses, queries, consequential impacts, or other required follow-ups within the timescales relevant to the organisation's balance of speed and prudence.
- The second thread required for holistic Gateway review decisions is to consider if the integration all the individual project products (outputs) that lead to milestones will lead to key enabler events, benefit delivery tests and value streams. This is the phase-based or change initiative perspectives that asks are the bits progressing towards being a system?
- The third thread is the commercial one. If we are supplier the questions the Decision Support Packages's contents must support is evaluation of "are related to satisfying our contract and the client?". If we are investor the questions the DSP's contents must support is evaluation of "is this the best use of portfolio resources given all other claims on them today?"
- In total the portfolio level decision **[[See Chapter 12 Ch 12]]** may be "proceed", "proceed within limits (such as fixing errors and omissions within some result's direct work stream first)", "don't proceed till actions are closed", "recycle the last phase", "Shelve, perhaps for later reactivation", "Terminate and salvage".

Every element of input to a gate review is interlinked. To have a viable commercial result the 'product' reviews must assess both technical and social deliverables. When we reach implementation benefits only flow from staff behaviours in combination with any required technical deliverables in the market-place (service delivery) context. That is the two 'product' streams combine at implementation. Reviews persists for much longer that traditional project management would acknowledge because the DSP's life-span is the same duration as the investor's accountability for benefits.

All review information is assembled by relevant experts inspecting the work of peers. Inspection should be conducted versus pre agreed standards for both development process and product and standards of operational use. For example a car's stopping distance will depend on the competent design of the breaks, manufacture of the breaks and competent operational use of the breaks.

The Gateway Review schedule will never be conveniently synchronised with all the development efforts. The various review processes run independently. The development and implementation activity that proceeds in technically bounded phases makes up many work-streams. One for each different discipline and team. The teams have different significant events that determine technical dates for them.



Portfolio level governance, operations and external commercial links all move to a calendar inexorably based on the sun and the moon. Product development runs to a calendar based on significant events in development lifecycles. P2 defines an appropriate mechanism in the 'stage' "a period of time during which the team is (teams are) authorised to proceed" provided it stays within pre agreed tolerances of productivity versus expectation.

Stages boundaries generally fall where some major work stream places a phase boundary or where a number of work stream conveniently reach phase boundaries in the same calendar period.

Routine commercial or investment reviews are typically periodic at a timeframe that matches the investor's market place cycle time. Monthly is not uncommon. Routine Commercial reviews should aggregate all the stage reviews which should aggregate all the product reviews. P2 tells us don't hold a meeting when there are no decision required, for example when progress tracks to plan and the plan still contains all the guidance relevant for the future.

The whole picture is that work streams hold product reviews as they need to. They are perhaps routine in nature but timing is on a "when ready" event basis. Commercial reviews are conducted on a routine and perhaps monthly basis and stage based Gateway reviews are conducted based on the best aggregate of the other two using a summary analysis of both their status information and the wider organisational context

The creation and use of the Decision Support Package's product related elements uses technical review results to answers the question "What is the status of product integration to a future operational system?" The DSP uses commercial review results to answer "is this still the best available use of capital?". Both questions rely on ability to estimate uncertain quantities [\[\[See Chapter 28 Ch 28\]\]](#). Both questions rely on the shared opinions of a group of experts. Expert opinion is ultimately subjective and prone to group think, bias and politics.

Reliability of estimates and opinions is improved if we understand the chain of steps from Vision, through Benefit delivery test, Tipping-Point (TP), Milestone, Product Breakdown Structure and Product descriptions linked to Product quality standards during Quality Planning, Work Breakdown Structure and Work Package (A26) and process standards again during Quality Planning.

Ultimately the Decision Support Package recognises that the project outputs are an operational system and now answers "What are the benefits received to date and still in prospect?" This last question eventually becomes one of merging decision making back into the annualised, operational routines. When to do this is again estimating and subjective assessment.

Key Points

The product realisation processes each run review cycles suited to their timings, the commercial process runs a coordination review suited to its needs (or uses p2's principal of "meet only in times of exception"). The coordination of both perspectives with a portfolio level re-evaluation of worthwhile-ness against all other capital uses is the Gateway Review

An investment (project) is a temporary decision making structure that transforms capital. The temporary decision making structure must be created, used and then remerged to operational decision making.

The decision making runs at three levels and with three focuses; Direct (Strategic commercial vision), Manage (Tactical phased work-streams) and Deliver (Output/product producing activity).

See elsewhere in this book

3-5 other book chapters

References

[[Ed Hmm, all my really great sources for this are proprietary and marked "commercial in confidence"]]

MSP?

OGC gateway Review

HM Gov's Green & Orange books?

Further reading

<https://www.gov.uk/government/publications/major-projects-authority-assurance-toolkit>

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26 Project GPS to Reroute

Starting in an unlikely place for insight into project success consider robot engineer Anthony Stentz paper “The Focussed D* Algorithm for Real-Time Replanning”. Stentz starts “Finding the lowest-cost path through a graph is central to many problems, including route planning for a mobile robot. If arc costs change during the traverse, then the remainder of the path may need to be replanned. As the robot acquires additional information ... it can revise its plan ... or move in the wrong direction; therefore, rapid replanning is essential.”

When you set your car’s Route-Planning system at the start of a journey it computes a route to your destination. The route is one of many possible routes which may at the early stages have little or nothing obvious to distinguish between them. The same is true of planning a project.

That route has no special significance but the destination does! Many routes will pass through the same points. The car’s routes may converge on a bridge and a project routes on a gateway review or acquiring some specific market-segment or technology. As circumstances evolve the destination remains in focus but the route will vary. For example because of traffic conditions or actions of competitors or regulators. At each turn a car’s GPS data or robot’s sensors inform a decision about the journey’s best next step not blindly take the planned next step.

Strangely this is not how people in projects often behave.

The 2010 paper by Tzaveas, Katsavounis & Kalfakakou “Analysis of Project Performance of a Real Case Study and Assessment of Earned Value and Earned Schedule Techniques for the Prediction of Project Completion Date” is typically of many to assume ‘when it isn’t working stick to the route and recomputed the arrival time’. They quote the ‘father’ of earned schedule Walt Lipke’s observation in “Project Duration Forecasting: Comparing Earned Value Management Methods to Earned Schedule”, that how to handle the effects of re-baselining is little discussed in even the best EVM reference books.

When we start a project we may not have a clear view of what the destination is or how to get there or both. It is amazing how often organisations express a goal unclearly, to a limited subset of the people who have to be involved and then expect prediction of a single precise route to the imprecise end and the absolute adherence to that route from now on!

Put like this I hope it is obvious lunacy. It is still more common than sense would allow (Once would be more than sense allows!) Of course there are circumstances where the intended steps remain the right and best steps and a new ‘eta’ or arrival time should be computed. But there are also many times when abandoning the route to reconsidering options to achieve the business value are more appropriate.

The explicit start point is “The Benefit delivery test’s Change Exit Test (CET) [\[\[See Chapter 8\]\]](#) has an immovable demonstration date but complete freedom of choice about how to achieve the organisation’s required result. Now given where we are today what are the best options to achieve that?”

Thoughts On Application

How should project GPS Re-Routing work then?

I recall arriving at Dublin airport once, catching a cab and the driver asked the classic “Where to” and I replied “Actually I don’t know!” As the cabbie pulled away from the kerb his response was “That’s OK there is only one way out of this airport anyway. Would you know if you want to go into town or out of town” as I hunted through my briefcase. “Oh somewhere in town” and he replied “OK you had 5 minutes ‘till I needed to know that and now you’ve got 15 minutes at this time of day ‘till I need something more precise”. “Errm its somewhere like Ballsbridge” “OK well we do have an area called Ballsbridge where the rugby ground is, and now you have 45 minutes till I need the address. Its only about 15 kilometers but it will take a while with the traffic”.

Projects should adopt a similar approach. Typically the cost cannot be reasonably well known until the design is complete and design depends on requirements. The only two solutions with ‘engineering left to right logic’ are to work to constraints, the agile time-boxed approach where we “cut the suit to fit the cloth” or make the key decisions once sufficient is know to create/update a reliable Decision Support Package [\[\[See Chapter 25 Ch 25\]\]](#).

‘Reliable’ is part of decision making under uncertainty with ‘bounded rationality’ and ‘value of information’ considerations [\[\[See Chapter 30 Ch 30\]\]](#) and [\[\[See Chapter 29 Ch 29\]\]](#). While options are open (commitment is reversible) and costs are low the quantification of returns can be vague. As costs and degree of difficulty to reverse decisions rises so decision support data should solidify or appetite for risk must match the gamble being taken.

As my taxi moved into Dublin from the M50 motor way it wasn’t long until the cab driver said “Looking at this traffic I suspect something has happened ahead; I think we might be better advised to go an indirect route. It will be more miles but definitely quicker” Amused by the idea it was 15 kilometres and now we would add a few miles to save time I was happy to agree. He was the expert with insight about traffic conditions and could project that insight to suggest alternate routes in my best interest. We Re-Routed based on observed status to achieve the best outcome within constraints. I always remember him as a proper project manager. No interest in the journey except for the fare for ‘depositing the business’ at the start of the next leg of the journey but an outlook that matched the ‘business need’.

Abandoning the taxi driver analogy consider the diagram.

[\[\[Ed Diagram needs refinement – Best worst from unassigned causes & from assigned causes\]\]](#)

The blue line shows the time phased cumulative cost of the materials and labour to deliver a project’s known scope. The red extension is the uncertain scope. The left hand axis is 100% of the work and the horizontal axis is 100% of the timeframe; both derive from work derived from product needs derived from a vision of future beneficial operations. Both allow for uncertainty.

The two parts of the line drawn can in total be called the Performance Measurement Baseline or PMB. The PMB represents the cost of the work we know we must do and the work we know we don't know if it we will need to do. Identified risks with pre-authorised contingent responses. The PMB omits the work we don't know we don't know!

I'll decode that. Definitely needed work is included in the blue section of the performance measurement baseline (which can be the story points due this sprint or all the steel fabrication if we where to build an off-shore oil platform). Allowances for the natural variation in time and costs of the tasks that we have identified are also in the baseline. This is part of what accounts for the difference between best case delivery and worst case cost and date at delivery. Also included are the allowances that are contingencies against threat and opportunity.

Contingency is an authorised response to an identified state whose occurrence is uncertain. Reserve is allowance held against the possibility of unpredicted situations

A rational balanced approach factors opportunity into the resource and durations totals; if the opportunities outweighed the threats the red would be a reduction not extension of the blue! The allowance for uncertain needs are auditable against our basis of estimates [\[\[See Chapter 28 Ch 28\]\]](#) and identified risks [\[\[See Chapter 29 Ch 29\]\]](#).

Contingency is an authorised response to an identified state whose occurrence is uncertain. Reserve is allowance held against the possibility of unpredicted situations

Contingencies omit consideration of what we don't know. What we can be certain of is things we have not though of will occur! An investor must also include provision against unknown unknowns. The provision is typically referred to as 'Reserve' and the mechanism to release it is Escalation [\[\[Ch 20\]\]](#). What we escalate are new routes to success. We either escalate them before the plan is approved (known unknowns) or on discovery (unknown unknowns).

During execution work progresses and things we worried about or hoped for may or may not happen. When a known unknown threat happens (We knew it could but not if it would but now it has so...) we draw down on the contingency allocated against the consequences. We change the route to the destination. The equivalent of the Route-Planner recalculating the remaining journey.

When a risk (lets concentrate on threat it makes the discussion simpler but bear in mind treatment of opportunity should not be ignored) event occurs for which we have chosen to make contingency arrangements for the actions to be taken can be scheduled. Previously we knew they might be needed and that they would consume in cost and duration terms but not when to schedule them. Now we do

The tracking of status retains its integrity to describe where we are and to project where we will be when finished.

Key Points

- Replace the plan when it no longer delivers the goals within constraints. This is in contrast to many project behaviours that doggedly follow a plan created when knowledge was sparse all the way to failure. Don't change the goal. This is managing within imposed constraints.
- Embed auditable allowance for anticipated but uncertain situations. The audit trail (not the management mechanism) is the risk register [\[\[See Chapter 29 Ch 29\]\]](#)
- Hold reserve outside the project team's reach and ensure a working escalation mechanism to approve rerouting as needed. Of course an escalation may change the goal as that is just a route-marker on the way to a higher level objective.

See Elsewhere

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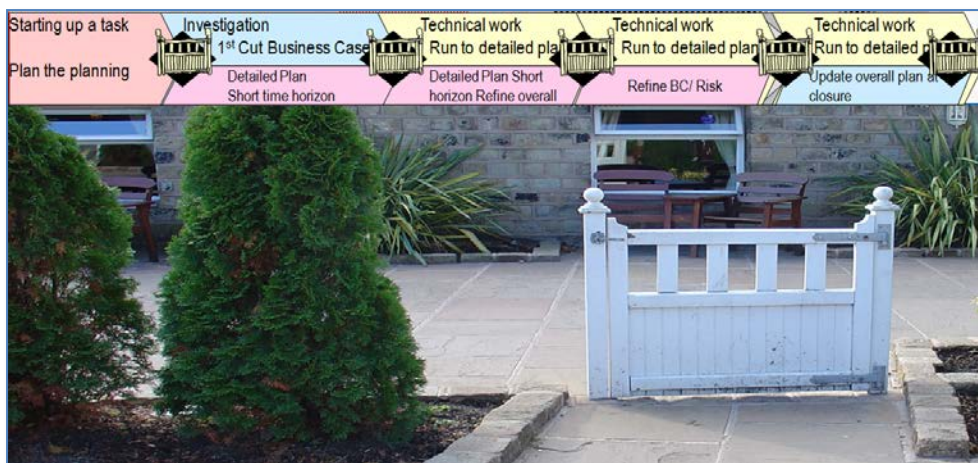
27 The Change Journeys steps and Decisions Between Steps

In [\[See Chapter 23 Chapter 23\]](#) we discussed tracking development and deployment status by analysing in context the raw task data to eventually arrive at decision support packages or work performance reports. In [\[See Chapter 24 Chapter 24\]](#) we considered the rise of these ‘progress analyses’ up the organisation to trigger decisions as needed. Progress reports and the related decisions might reasonably be called tactical decision making. Management’s care of competence in conducting the journey.

In [\[See Chapter 25 Chapter 25\]](#) we considered the construction of the wider Decision Support Package. The DSP might reasonably be described as the ‘progress analyses’ for the strategic leadership decision making that answers questions about “are we (still) on the right journey?”. In [\[See Chapter 26 Chapter 26\]](#) we considered that tactical and strategic decisions must result in conclusions to ‘carry on’ or ‘re route’ (or ‘halt’!)

This chapter’s perspective is that “are we (still) on the right journey?” question again. This time not “how do we assemble the report from the inputs? nor the conduct of the decision forum”. This time we consider what decisions are needed along the investment timeline? A viewpoint that is dependant on the journey of status data up the organisational hierarchy because that status data is what we use to steer as we progress from initial idea to steady state benefits flow.

The time-line journey combines the portfolio view point related to capital’s permanence and the program’s end to end governance of change. Controls need to establish triggers, timing and roles involved in the communication flows that operate within each layer of the organisation’s hierarchical levels. P2 and PMBoK-Guide are a compatible and almost non-overlapping answer to our needs.



The substance of the decisions varies by industry; Oil and Gas is necessarily different from Clinical Drug Trials, Organisational Business Transformation differs from New Product Development. The generic sequence is mostly the same. You cannot make firm commitments until you have done some investigation. Agile might be iterative but the calendar isn’t. The former Office of Government Commerce published a Gateway Review process of 6 gates that is industry neutral.

- strategic assessment

- business justification
- delivery or procurement strategy
- investment decision
- readiness for service
- operations review and benefits realisation

To be in control the timeline journey is the journey from approval 'gateway' to gateway. Passage through each gateway marks commitment of resources. The process of making decisions to steer capital use from gate to gate is Governance.

The governance process is; 'the processes that confirm the right rules for the care of capital are being followed correctly'. We will take governance from the angle of stewardship; "when we exercise governance it is to ensure someone's capital is being managed competently and is treated by those using it as if it were their own."

In our context the topic is often titled 'Project Governance', but since we have identified that 'project' is not a good term for our pursuit of success [\[\[See Chapter 3 Ch 03\]\]](#) we should start by labelling our concerns to be the governance of change; we are looking at a 'journey'. The capital stewardship angle of the journey says that "whole journey" is the mandatory view.

Being on a journey means yesterday's actions are not the same as tomorrow's actions. This differentiates the challenges in governance of change the organisation from governance of run the organisation. The Governance of change is typically and pragmatically implemented by combining two elements.

One is punctuating the flow of resource consumption with check-points to ask "Based on the audit trails and opinions of all involved is status as we would expect and accept?" The other is the continuous in-process monitoring of the detail that generates the audit-trails. That low level work performance data must be continuously compared to performance tolerances and exceptions raised when tolerances are threatened. P2 sets out the mechanisms as well as it is possible to set them out.

PRINCE2's and MSP's Structure

P2 runs SU, DP1, IP and DP2 and DP3, CS and MP,MP,MP until either SB & DP3 and back to CS/MP or CP & DP5! Each of the DPs is a Directing a Project decision*. Some more or less align to our important business GateWay Reviews [\[\[See Chapter 27 Ch 27\]\]](#). The p2 manual says DPs are conducted by the project board but this is bad advice. We really need the project connected to the portfolio view of all capital uses.

SU is Starting up the project by gathering information sufficient to answer "is this worth properly appraising?" if the answer is 'Yes' then the Initiation stage builds a top level plan for (just) development of outputs. A p2 project on its own is a nonsense.

The manual deprecates the abbreviation of process names but it saves long, long titles!

If Initiation's two key deliverables { 1)the business case and so project plan plus control and 2) next stage's detailed plan} are judged as OK at DP2 and DP3 we cycle around CS (Controlling A Stage -

Release would be a good agile word) by kicking of instances of MP (Managing Product Delivery via delegated 'work-packages' – Sprints would be a good Agile word, EPC* contracts is a good expression in other contexts). Eventually we run out of work and close the project (CP) or finish a Stage and so transition through a Stage Boundary (SB) by redoing day-to-day level schedules (the Stage Plan) and redoing DP3. DP4 as and when we need it is escalation of issues to the Project Board, t delivery of advise or guidance from the board and te touch point for routine "all still ok" reporting.

The MSP journey is much the same except we start our 'transformatioal flow' asking "is there a business opportunity? If so what is the future state (blueprint), What projects do we need (Dossier)?" As each development project finishes thought should move on to "lets get the outputs into use to generate outcomes and benefits". The recycling in msp is "Do we need extra or different projects for the best benefits profile from today onwards?" when the answer is no then stop the program (and lets hope business as usual can cope!). If the answer is yes then change or add to the active project set (the "Dossier").

Reality might be a bit closer to the program is the supplier's administration of a bunch of concurrent development cycles. That isn't really what a business looking for return on investment needs.

The Gates

The gates (decision points) we need must be the steps in the kanban value-chain of the agile portfolio board [\[\[See Chapter 18 Ch 18\]\]](#). Roughly: Candidate Idea, Researched Idea, Approved idea, In development, In embedding, Embedded as Business as Usual (BaU). The kanban question is always "have we the required capacity?" and the step where the answer matters most is in operations. Operations are typically considered beyond the end of projects hence project is the wrong sope to deliver business success [\[\[See Chapter 3 Ch 03\]\]](#).

The imposition of governance of change fits reasonably well with the combination of p2 and MSP (Managing Successful Programs – hence forth "msp") and Management of Portfolios (MoP). Portfolio and program do have the right scope. The Mop, msp and p2 guidance was originally provided by parts of the UK Government but are now maintained by an industry joint venture called AXELOS. Another source of guidance is the Project Management Institute's [arrogantly titled] "The Standard for Portfolio Management 3rd Edition" and "The Standard for Program Management 3rd Edition" and the more modest "A Guide to the Project Management Body of Knowledge (PMBok®- Guide 5th Edition)".

Capital use must be addressed from the portfolio's perspective of permanence. Use of 'program' provides the ephemeral journey's complete end to end breadth [\[\[See Chapter 12 Ch 12\]\]](#). Msp is sound advice but largely repeats, slightly extends and generally lacks the details of p2's framework for control of product development. We can take confidence from P2's description of flow of control as suitable for enabling governance of technical product activity (technical outputs) and behavioural change elements (social and cultural outputs). P2's control of decision data flow is also equally suitable whether we are using agile product development methods or traditional heavy engineering's progress through FEED* and EPC contracts or any other industry's needs.

*FEED stands for Front End Engineering Design. It is the step that translates requirements to a costable outline design package. EPC stands for Engineer, Procure and Construct and is a contract type used to engage a contractor to deliver what is described by a FEED package. EPC contracts are often lump-sum-turn-key contracts.

Neither p2 nor msp tells us how to populate the information flows but the PMBoK-Guide covers most of it via Work Performance Data, Information and Reports plus the guidance related to turning data into information using Earned Value Management (EVM). The addition of benefit delivery tests [\[\[See Chapter 8\]\]](#) the value case [\[\[See Chapter 9 Ch 09\]\]](#), Value Drivers and ValueFlashpoints [\[\[See Chapter 7 Ch 07\]\]](#) covers one missing aspect. Tracking Gantt charts, Milestone slip charts [\[\[See Chapter 24 Ch 24\]\]](#), Earned Schedule and audit trails from Configuration Management [\[\[See Chapter 31 Ch 31\]\]](#) and Quality Control [\[\[See Chapter 23 Ch 23\]\]](#) covers all the rest (I think).

P2, msp, MoP and the two PMI guides describe the generic journey from idea to benefits. Between the five publications there is more or less one simple message journey wise. For example all five say manage risk and align risk management processes.

If I list out the important words you'll grasp their contents: Business Value, Alignment (with operations), Business Case, Benefits, Initiation and Definition, Road map or blueprint or plans, Execution, Transition, Sustainment and all the persistent and functions needs such as Stakeholders and communications, Governance, Procurement and resourcing. P2 and msp give a control structure. Msp's is slightly broader. The PMI's portfolio guide gives a few tools.

Thoughts on application

What we need to add is GateWay review guidance. The best source is what was published by what was the Office Of Government Commerce (OGC) within the UK Government's Cabinet Office. The "OGC Gateway™ Review Process OGC Best Practice – Gateway to success" documents give a first class structure and contents. To paraphrase and extend their contents for all that is in this boo the review suite is:

Gateway 0 Make An Initial Strategic Assessment

Assess the capabilities of those involved to deliver and the relevance of the goals (Vision and benefit delivery tests [\[\[See Chapter 8\]\]](#)) to the organisations mission, values current and future needs.

If the conclusion is that the investment is worth proceeding with then the options for what to deliver and how to proceed are refined. Initial estimates of affordability, achievability, desirability and relative value for money outcome [\[\[See Chapter 9 Ch 09\]\]](#) are prepared as inputs to the next Gateway Review.

This stage is typically outside of the scope attributed to projects and is inside program and portfolio scope.

Gateway 1 Stress Test The Initial Business Justification

Assess the feasibility in context, for example sensitivity to current assumptions and the sponsor's ability to make change happen [\[\[See Chapter 19 Ch 19\]\]](#) [\[\[and others\]\]](#) despite context changes. Feasibility is based on realism and clarity of plans at this stage, also the probability of achieving

suggested value for money or benefits targets, the socialisation of the changes and the will of the organisation to embrace change [\[\[See Chapter 10 Ch 10\]\]](#).

If the conclusion is that the investment is worth proceeding with then develop the acquisition strategy and extend and refine requirements from Vision and benefit delivery tests to key enabler events and milestones. Use the developing maturity of information to update the business case

Gateway 2 Assess The Delivery or Procurement strategy

Assess the Acquisition strategy. Do the requirements express the breadth of future operations adequately to deliver an integrated system that generates an optimal benefits flow?

Where elements or the whole are to be procured does the approach to tendering recognise who is in the market-place, follow good procurement practice, appropriately cover the requirement and accommodate change to any aspect of procurement.

For all elements to be developed and integrated internally are suitable qualified, experienced and available staff and resources (including cash-flow) in place all along the acquisition and deployment chain and across the timeframe of disruption? Has a suitable product development lifecycle been selected for each product and a suitable project control life-cycle been selected [\[\[See Chapter 22 Ch 22\]\]](#)

Are the proposed controls and controllers adequate to the evolving complexity, size and duration of the disruption?

If the conclusion is that the investment is worth proceeding with then invite tenders from potential supplier and partners, update the business case, particularly the value case but also cost and schedule factors.

This stage is typically outside of the scope attributed to projects and is inside program and portfolio scope.

Gateway 3 Make The Investment Decision

Revisit all previous questions and assess the readiness of internal resources and contractors to undertake the required work to create change and integrate into future operational routines. Assess the clarity and stability of requirements and assigned roles and proposed solutions versus the adequacy of controls and controllers to detect and react to variations from baselines. Consider all of the PESTLER* factors.

*Political, Economic, Social, Technical, Legal, Environmental, Resource

Note that the decision to commit is after a significant amount of effort has been expended. That is the significant question is answered when significant information exists to inform it. Sometime as swifter answer is required. In these circumstances a more significant risk is being undertaken. Risk is best taken with appreciation of its dimensions [\[\[See Chapter 29 Ch 29\]\]](#).

If the conclusion is that the investment is worth proceeding with then mobilise action, monitor progress and re-route as required (gosh that seems simple!) Development may progress through

multiple stages, sprints or phases. Some elements may reach service readiness and deployment before others have even reached confirmed Acquisition Strategy.

Throughout the acquisition activities apply most of the chapters of this volume. As contracts reach fulfilment close them in-line with the procurement strategy. As internal staff are needed or complete assignments induct or release in accordance with staffing management plans and policies.

This stage typically constitutes “the” or “a” project within the business change program and portfolio’s scope [\[\[See Chapter 12 Ch 12\]\]](#).

Gateway 4 Readiness for Service

Assess the implementation plans in much the same way as for gate three. Is the deployment strategy realistic and adequately resourced?, are continuity and or roll-back arrangements in place?

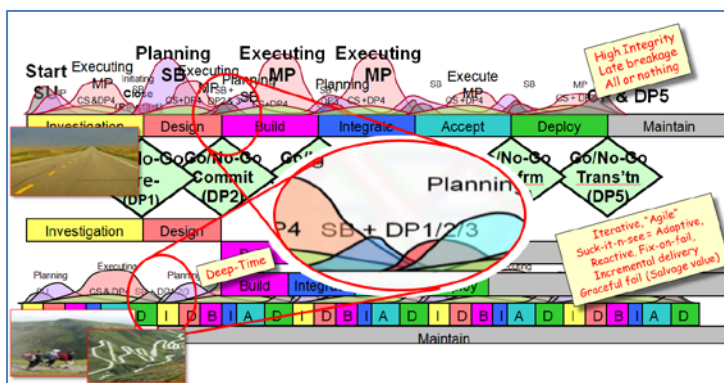
If the conclusion is that the investment is viable to proceed with then implement changed behaviours and technologies across day to day operations. Treat the monitoring and control as for development. There are probably transition needs to make operational managers the prime ‘project manager’ while the development project manager transitions out of direct involvement [\[\[See Chapter 33 Ch 33\]\]](#).

This stage is typically and wrongly described as outside of the scope attributed to projects. It is inside program and portfolio scope.

Gateway 5 Operations review and benefits realisation

Assess the audit trail of test/ Change Exit Test tests on benefit delivery tests and subsequent changes in benefits flows. Where benefits flows can be improved design and implement refinements to the operational integration of behaviours and fixed assets [\[\[See Chapter 15 Ch 15\]\]](#).

The conclusion sought now is can the investment be considered complete and the benefits considered just part of routine Business as Usual under routine monthly, quarterly and annual cycles? If so close this initiative and move on.



Key Points

- The Gateway Review process is a portfolio level element of an organisation's governance duties.
- The journey along the time line can be halted at any gate. It is normally wise not to skip gates and not to proceed if there conclusion contain caveats.
- The duty to ensure suitable people are involved in all steps of the gating journey, to create the DSP data, to analyse the information and to decide the resultant actions rests with the sponsor and portfolio authority. The project manager's limited period of involvement should make it obvious that expertise in the governance and gating process has to sit in the business not the projects.

See elsewhere in this book

3-5 other book chapters

References

"OGC Gateway™ Review Process OGC Best Practice – Gateway to success" – 6 Slim booklets without ISBN number or other definitive identifier. Can be found online by searching

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The Standard for Program Management Third Edition Project Management Institute ISBN-13: 978-1935589686

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Managing Successful Projects with PRINCE2: 2009 Edition, AXELOS Ltd ISBN-13: 978-0113310593

Managing successful Programmes 2011, AXELOS Ltd ISBN-13: 978-0113313273

Management of portfolios OGC ISBN-13: 978-0113312948

Further reading

HM Treasury Green Book and Tool-Kit, TSO London

A Guide to conducting Integrated Baseline Reviews. A product of the Defence Earned Value Management Implementation Group IBR Sub-Committee

28 THE Most Difficult Easy Topic Is Estimating

My publisher's brief was "chapters based on published research or overlooked best practice". The #noestimates movement has no published 'peer review' research (yet). Is often put forward with lots of zeal and no facts and is met with fierce counter arguments that call it stupidity and the opposite to anything recognised as best practice. Yet for all that they have some sound concerns.

#noestimates is also an example of social media in project management. Woody Zuill's twitter hashtag is a rallying call (or battle field) for those who see damage done by guesses masquerading as estimates. Too often those masquerading guesses misleadingly underpin serious business decisions of consequence.

Estimates are not guesses, they are not numbers and they are not static.

The difference between an estimate and a guess is that while both can be wrong you can tell why and where within an estimate and fix it. An estimate is a defensible package of factors that each time it is examined returns a value range. What we hope for is that the range returned is both stable and narrow. Narrowing of ranges typically happens over time as we learn more and update the estimate's contents.

Projects are decision making structures deciding about and in advance of the future; entirely dependant on prediction. Because projects venture into the unfamiliar our ability to estimate is eroded and perhaps even destroyed until we gain familiarity. One approach to decision making is to base decisions on estimates that include allow for uncertainty [\[\[See Chapter 29 Ch 29\]\]](#). When your estimate is actually an undisclosed and meaningless guess with an unjustifiable element of padding this is a bad way to proceed. #noestimates say then it is much better to reframe your question.

Thus (if I understand them correctly!) the #noestimates aficionados will say "Don't ask me 'when will the scope be completed?', instead tell me the delivery date, tell me the things that matter most and I'll work hard to deliver as much of what matters as possible inside the date". With the date held solid there is no longer a deadline squeezing scope and schedule. Instead there is certainty of delivery.

Estimating is actually really really easy to do accurately while also being really really hard to do precisely

The #noEstimate proposal is "we don't need estimates we need decisions". Estimates are not the only way to resolve decisions so when we can let us not use estimates. Customers don't buy estimates so producing them is muda – waste, non value adding activity so eliminate it.

Aspects of this are close to the core of our benefit delivery test's Change Exit Test (CET) in [\[\[See Chapter 8 Chapter 08\]\]](#)!? In-fact we are more restrictive. Date is set and scope is set in a Change Exit Test (CET). What is open is approach and the totality of the sponsor's power to make the result achievable within the constraints when issues are escalated. In fact the approach seems reminiscent of the DOD Directive 5000.01 concept of '...they shall view cost as the independent variable' I.e. this is how much money I have now build the best result I can afford. "Shall" is a big word in military directives. It means 'zero discretion'.

Decisions are (or Estimating is?) the bedrock of everything to do with creating intention, creating baselines, assessing status, making decisions and being in control. As our knowledge grows so our ability to estimate improves. Improvement in estimating (decision making) ability is one or both of reduction in uncertainty (narrowing of ranges) and sooner in the process. Progress tracking is the process of re-evaluating the estimating algorithm for its reliability, correcting the estimate's contents as experience advises and re-computing the remaining predicted out turns. When we have fresh predictions we should check if we need to re-computing the route to success **[[See Chapter 26 Ch 26]]**.

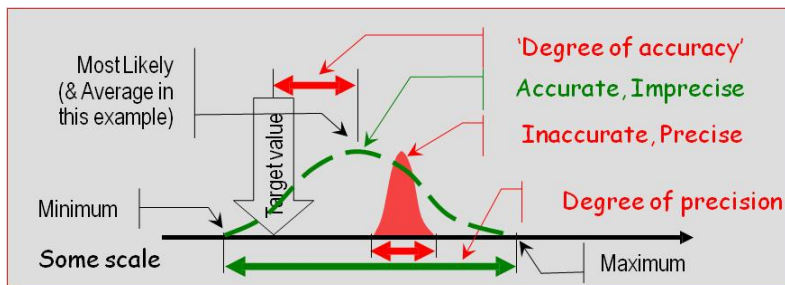
Sound estimating needs a few concepts understood that seem somehow to have escaped widespread understanding.

Estimating is actually really really easy to do accurately while also being really really hard to do precisely. Precision is really hard (did I say that), is slow, is expensive and is rarely needed while accuracy is mandatory at all times.

Concept number one: In the image the green is accurate and imprecise while the red is precise and wrong. The secret is that to be accurate needs only the use of a wide range! Simple.



Concept number two is in two parts: it is the producer's duty to be accurate. It is the recipient's problem to decide if the precision is sufficient for the purpose for which they need it. If the precision is insufficient then the recipient needs to pay for increased precision. That takes time, research, experience, models, trials, and measurement to



build predictive formulae and data.

Concept number three: estimates are needed for only two purposes A) for decisions rationing constrained resources such as "who with the skills can

be assigned?", "what is the value for money and return on investment?" and B) to coordinate otherwise independent activities that must integrate. The second case here is duration. In almost all cases duration is a political choice that results from required effort divided by assigned resources. Resources vary in productivity and availability.

Concept number four: if you cannot or don't want to reframe the question to avoid an estimate then estimate everything quickly and crudely (wide ranges). When you see from the initial assessment what drives decisions such as which few interdependent tasks drive delivery date or are the major costs, or are the key rare skills assignments then refine just the estimates that matter.

Concept number five: organisational decision makers often demand a single number. The answer is to educate them to the nature of estimates but in the mean time quote a figure and a probability of "won't exceed" as in "2 weeks p10" or "6 weeks p90" meaning 90% chance of completion in under 6

weeks. The difference between an acceptable value such as at p50 and a confident value such as p90 could sensibly be included within the performance measurement baseline [\[\[See Chapter 26 Ch 26\]\]](#) as part of the known unknown contingency allowances.

Concept number six: estimates are of greater significance during execution than planning. In execution we gain more and more experience. Information is added to the estimates, outlook is compared to expectation and corrective actions taken. The assessments of status for example in burndowns and EVM “S” Curves [\[\[See Chapter 23 Ch 23\]\]](#) are mostly the determination of Velocity or Cost/Schedule Performance Index. These are systematic factors for inclusion into estimates to determine “to complete” and “at completion”. Using estimates means improving the estimates ability as a reliable predictor for future decision making!

Concept number seven: there are a myriad of approaches and methods and techniques. Use them all in combination when precision is worthwhile and use the quickest and cheapest before then.

Thoughts On Application

- All estimated quantities are based on previous experience (estimating by analogy). Sometimes an observed relationship can be expressed as a formula (parametric estimates) with one or more driving values and one or more consequential values

Imagine you need to dismantle and move some 5metre high warehouse racking. Each flat shelf makes four junctions with one each of four vertical supports. There are 6 bolts per junction, 10 levels per stack, we need to rearrange worker and shelving fall protection every 3 levels. The top six layers need to be strapped before and lifted down after the bolts are removed. Layers 10 and 5 have 4 extra bolts each tying the rack to topple prevention measures. These are driving parameters. They must be part of the estimating package. Estimates are not just ‘final’* numbers.

*nor even just current numbers.

We might now speculate that each bolt takes 50 seconds to undo by hand unless it is rusted. If easing oil works it introduces a minimum 5 minute delay to penetrate the thread otherwise when bolts are totally rusted that adds 3 minutes per bolt to grind the heads off. 3 in the same stack is unlikely but 4, 5 or even 248 (the total bolts in a single stack) is not impossible.

It might also prove to be the case that only every other layer needs to be disassembled. Also that an air-powered bolt driver reduces time to unscrew bolts to 5 seconds and reduces the number rusted too tight to remove without easing oil. We might also decide to apply easing oil to all bolts the day before disassemble to remove the delays during disassemble. We might also know historically a previously leaky roof in one particular area varies probability of rust by rack location.

Now we have a full, initial estimate. Then we realise that setting up the air-tool takes time at the start of day and or each stack, unpacking the grinder on first use delays at least that bolt etc. Now we have a fuller, ‘initial’ estimate.

- Uncertainty can be reduced, at a price and delay by experimenting and gathering more data from more sources.

- Estimates come after constraints. Constraints can be any incomplete subset of scope, date, resource*. (The classic phrase is “Cost, time, scope pick two”). Estimating (Decision making?) must then start with the quantities that can be directly derived from decomposing the product and its acquisition lifecycle further. Typical start is to consider the goal in terms of pre-requisite deliverables then consider the tasks to acquire (make or buy) the deliverables. Both estimating approaches are developed from the contents of the Product Backlog or Product Breakdown structure and Work Breakdown Structures or kanban card. These scoping tools provide exactly the right framework to capture the relevant investment decision data. Next the directly derived quantities are combined parametrically. Later they are adjusted by actual velocity experienced.

*In fact there are many more than 3 constraining factors; others are risk, reputation, health and safety. The actual question is “constrain at most n-1 at least 1 is consequential or dependant on the others.”

Key Points

- An estimate is not a number, it is a ‘machine’ comprised of a collection of related factors that when the ‘handle is turned’ generates a range of values that reflect the uncertainty of the future as it stands today.
- Inaccurate estimates are incompetent, all estimates must be accurate at all times. The cheapest price of accuracy is loss of precision.
- If you need precision you have to pay for it. It is always possible but not always worthwhile.
- Always insist on estimates whose basis is auditable and whose precision, timeliness and cost are balanced with the decision making that is based upon them
- Everything that can be calculated should be. For example some durations are the result of dividing estimated effort required by available resources and their productivity.
- Everything that is material and unknown is the source of an assumption and requires accommodation in wider ranges.
- Educate the whole organisation about how to commission, receive, generate, substantiate, use and review estimates.
- Recognise that poor estimates are a project killer.

See also in this book

References

Twitter for #noestimates

Woody Zuill’s blog, particularly the noestimates category
<http://zuill.us/WoodyZuill/category/noestimates/>

DOD Directive 5000.01 May 2003, Paragraph E1.1.4

Further reading

(Student Syndrome in) “The Critical Chain”. Eliyahu M. Goldratt ISBN-13: 978-0884271536

International Function Point Users Group www.lfpug.org

Association for Advancement of Cost Engineering (formerly the American Association of Cost Engineering) www.aacei.org

Every industry has a library of industry specific estimating models and methods from laser surgery to under sea pipe laying.

Top

Chapter Appendix

Approach covers 'Top down' and 'bottom up'. The direction is across the scope in backlog or breakdown terms. Top down takes an approximation of a final value and divides it in assumed proportion across first the products then the tasks required. As we go we sense-check each allocation to adjust any that seem mean or generous. We can normally estimate top-down using analogies very early on and very cheaply so long as we recognise precision almost certainly intrudes error and renders the estimate useless. Bottom-up starts with the lowest level of detail so typically isn't available as an approach so early and is more labour intensive so more expensive but also more precise.

Methods or Techniques include 'by analogy' or using a formula (parametric), planning poker, function points, story points, T-Shirt sizing and others. The last four seek to size dissimilar pieces of work on an arbitrary ordinal, but not necessarily linear scale which can later be turned into durations.

In the Wisdom of Crowds James Surowiecki highlights Sir Francis Galton's 1907 paper that shows a crowd's averaged assessments of the weight of a butchered ox was closer to the actual value than the individuals including experts within the crowd. An estimating conclusion is to ask many people to estimate. If we use the Delphi (or WideBand Delphi) technique then we ask a number of people to prepare their estimate packages – not (just) the numbers but the factors and then share everyone's thinking with everyone and recycle until consensus or clarity of disputed factors emerges.

While reality is that final values cannot be known till after the event and even then there will be dispute about what should be included and excluded it is inevitable that organisations need predictive values to be able to function. Typically business decision makers want single point values rather than ranges. A range represents an interval over which confidence to not exceed grows. A common expression of single point estimates is actually a cheat and perhaps not well understood. An expression such as £100-p80 means 80% probability that cost won't exceed £100. Oil reserves are always quoted as "p—something" Eg 1bnb-p10 One billion barrels 10% probability.

A crude way of arriving at the p80 figure is to average a number of estimates and assume this delivers a 50% probability and then add a sixth of the range and assume that increases probability to p-80. The minimum number of values to average is obviously two but with three we can assess the reliability of the result. The three values sought are the minimum, maximum and most likely. Since

one value is more probably than the others it is weighted (typically by 4 times). What is overlooked and most significant is the gap between minimum and most likely and maximum and most likely. If the gaps are roughly equal (and the underlying data reliable!) then this is a reasonable way to compute a probability figure. The formulae are the useful remnants of a now unused scheduling approach known as PERT (Program Evaluation and Review Technique). When greater reliability of result is required, and particularly when using PERT for durations across precedence diagrams Monte-Carlo simulation may help.

Top

29 Errrm, Uncertainty. Is this Estimating Again?

You might have thought a book on project management success would be chock full of references to risk. Perhaps this book is but not obviously; the word deserves little 'air-time'! One factor that worries me is Professor Daniel Kahneman won a Nobel prize for showing that most people don't have the first clue how to assess risk; perhaps this isn't an easy topic?

In fact professors Chapman and Ward of Southampton University warn us that our project risk management practices are the wrong topic! The title of their paper suggest we should be "Transforming project risk management into project uncertainty management". Project's may be risky things (projects exist to pursue opportunity and respond to threat) they are journeys into territory that is less well known than routine operations; hence uncertain. Projects are about decision making under uncertainty. The term 'risk' risks anchoring our thinking with unhelpful models like 'threat' and 'event'.

Let's start with an important definition that is not the typical textbook one but reflects Chapman and Ward's concerns.

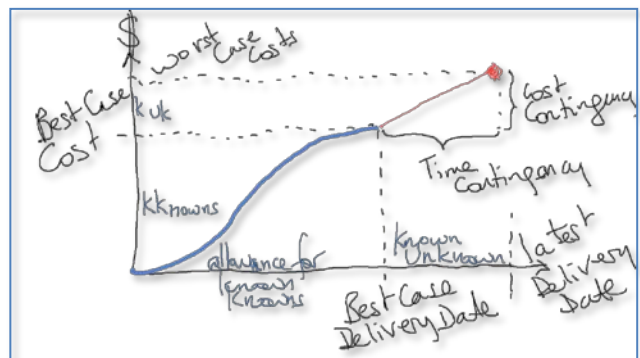
- Risk; an uncertain change in state that affects something we care about.
- In a project context the 'state' is either the targeted future (strategic risk) or (and) the journey along the baseline to achieve it (tactical risk). Note importantly that risk is relative to something. When we talk about "I've nothing to lose" we are recognising 'no threat and full opportunity' because the status quo cannot deteriorate but can improve.

Note also that the change in state could have multiple causes. Note that onset can be an event or gradual. Note effects will have multiple consequences for multiple stakeholders with a variety of concurrent positive and negative affects. Note that if we spot it in advance it is a known unknown and arrangements to respond can be put in place. For threats the arrangements are mitigations. There isn't a suitable equivalent word in English for arrangements aimed at an opportunity (unless it is project?).

Those potential state changes that we don't spot in advance are unknown unknowns. One thing we can say for sure is unknown unknowns are out there! Specific arrangements are not possible but we must make a general provision. That provision is normally called "reserves" and is outside the Performance Measurement Baseline (PMB) of authorised known knowns and known unknowns [\[\[See Chapter 26 Ch 26\]\]](#).

Another important definition is that the baseline is the aggregate of all our estimates (targets and constraints).

To revisit our estimating discussion in [\[\[See Chapter 28 Chapter 28\]\]](#) we saw an argument that we don't want estimates what we want are decisions. Now we see a suggestion that risk management is really decision



making under uncertainty. Estimating is as much misunderstood as Risk management because it's the same topic. I'll propose we are looking at one topic from two perspectives and both times incompletely and unclearly.

It is unhelpful that those who write about project risk impose a superficial insistence that risk is "uncertainty of outcome whether positive or negative". While this is true – risk carries impact in both directions – little of most author's subsequent paragraphs maintain neutrality. Generally there is a swift slip into threat only language. Discussing 'Risk' as positive and negative is counter our day to day perception of 'risk is threat'.

The idea of positive and negative outcomes fits comfortably with 'uncertainty'. Uncertainty also sits comfortably with our definition of project success that success equals 'delivered some magnitude of benefit to stakeholders' [\[\[See Chapter 3 Ch 03\]\]](#). Our whole journey through this book has thus been a discussion of delivering opportunity and so applied risk management; project decision are aimed at making the probability and significance of uncertain future benefits greater – ergo the real topic isn't risk it is decisions under uncertainty!

Thoughts On Application

- Number one is be aware of the nature of project uncertainties. Appreciate that desired end, tasks to get there and every other factor is a prediction so uncertain and subject to change. Then...
- Identify the uncertainties we face in terms of causes and consequences
- Both causes and consequences will be a messy pile of interrelated 'stuff' (Ackoff's messes again [\[\[See Chapter 16 Ch 16\]\]](#)) but where we can we should seek to characterise the consequences as affecting the acquisition of capability so tactical or affecting flow of benefits so strategic. In both cases the consequences are versus the 'baseline' future that exists in the project and will exist after the project succeeds as envisaged.
- For consequences identify causes (and for any causes map to consequences)
- Messy incomplete expressions of risks (uncertain state, causes and consequence) must be tolerated during identification to encourage detection of as much of the uncertainty as possible. It is best to eliminate (or at least reduce) what we can of the mess by linking causes to consequences before moving on.
- Next is to suggest responses to causes and to consequences that make good uncertainty sweeter and more likely and do the opposite to threat. In both cases actions that compensate or capitalise may need to be included in the contingencies. Of course they can't be scheduled if the need for them is uncertain so they sit above minimum cost and after earliest possible delivery date [\[\[See Chapter 26 Ch 26\]\]](#) or within sacrificable and additional scope [\[\[See Chapter 21 Ch 21\]\]](#)
- On an ongoing basis select (and drop) actions that we commit to and become schedule actions in the project's baseline. Scheduled and budgeted actions are known knows. These are actions to affect causes or in readiness to respond to consequences. Also...
- When a state becomes inevitable schedule its contingent capitalising or compensating responses into the baseline. When the emergent state was previously an unknown unknown

the responses are normally accounted against reserves although clearly taken on the necessary day only after an escalation and authorisation.

The summary is that risk is managed from the day to day schedule and resource use not from the risk register.

Besides professor Kahneman's proofs that people do not understand probabilities and change their minds about equivalent scenarios simple because of alternate wording (Consider the over simplistic example: A general's plan "A" losses 200 of his 600 troops while from plan "S" 400 will survive) project risk can be improved being aware that the register is the audit trail of everything we considered could introduce variance to baseline benefits and baseline journey to them. The Baseline shdule is all the items extrated from the register to be managed as known knowns or added when a known unknown bcomes certain.

Key Points

Successful projects deal with uncertainty as a natural part of day to day awareness and empowered decision making by all the participants all the time.

Plans are a best-estimate about tomorrow so are highly likely to be less than complete and accurate

Foster awareness of uncertainty as the key to reactive project controls. Where certainty is high plans can be drawn-up with high degrees of determinism. Where uncertainty is high plans are drawn-up with flexibility, high degrees of monitoring and if possible and desirable wide ranging consideration of alternate scenarios to be selected for execution as needs prove each to be more relevant

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Top

30 Value of Information & Bounded Rationality – Eh?

The Oil and Gas industry has a concept of the “Value of Information”. Roughly it runs ‘Drilling exploration wells is quite expensive. Each one might tell me something about the nature of a reservoir. Exploiting oil or gas fields is very expensive so only worthwhile if the reservoir has the right characteristics (like total recoverable reserves). Do I need another exploration well (more cost) to make an informed decision about exploiting or abandoning a discovery?’

From an entirely different perspective the answer to the question “Do people make rational decisions?” is “Generally sorta yes but don’t rely on it”. Time and again I’ve described a project as a decision making structure. Since projects are entirely singular to people the definition might be more accurate as “a vaguely rational decision making structure”.

US Nobel laureate Herbert Simon described his 1957 book *Models of Man; Social and Rational* as “a collection of mathematical essays on rational human behaviour in a social setting”. In it Simon presents essays on a number of topics dealing with decision making. He shows us that typically we lack the time to gather and the ability to analyse all the information that would be needed if we were to be perfectly rational. He also points out that not all of the information available is reliable.

The result is Bounded Rationality. It is different from the ‘perfect rationality’ assumed in economic theories and many (project management) text books. Instead ‘real people’ tend to ‘get close enough’ then jump to a conclusion. Noam Chomsky further explains a person’s thinking process as subject to ‘generalisation, deletion and distortion’. These processes reduce the world to a manageable size inside our heads to stop us being overwhelmed.

Daniel Kahneman’s “*Maps of Bounded Rationality: Psychology for Behavioural Economics*” suggests that it is not that people reason poorly or are unable to compute conclusions but that they act intuitively based on what they see at a given moment. Perhaps this accords with Professor John Kotter’s message in his books that are summarised as “See Feel Change”.

Projects need a number of types of decision. The early ones are to embrace the idea of taking action and then about the desirable direction of travel. Late ones might be about “have we done enough, there is always more that could be done?” Intermediary decisions are perhaps trade-offs between options.

Decisions might also range over “I know the answer but must escalate a request for permission”. Another might be “I have authority but not the knowledge” we met these two in discussions in [\[See Chapter 20 Chapter 20\]](#).

When faced with decision making there are a plethora of available tools and techniques. Many seem to entail drawing 2x2 matrices or hierarchical tree diagrams, sometimes payoff tables and games theory. Whatever techniques we use and whatever our deletion etc or our bias from the recently seen etc we need to address the value of information or sufficiency of information question. The “when to stop gathering input” or Value of Information idea recognises that there comes a point where gathering more decision support data is valueless. Perhaps we could argue from Chomsky and Simon’s perspectives that more information might also be detrimental.

Useful (and the less useful) information helps decision making by informs us about alternatives and consequences. Project decision are ofte multi-attribute

How Do I Use This

See elsewhere in this book

3-5 other book chapters

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von Neumann

Top

31 The overlooked golden key: Configuration Management -

We cannot talk about project management success without a basic smattering of CM. Projects produce 'stuff'. CM cares for stuff. CM is record keeping. Projects rely on records for status and management. Success is ongoing benefits and CM runs for the duration of product life-spans.

CM matters.

CM is Configuration Management; it is a techie topic. The process and role holder should also be the Project Manager's friend. We must cover what it should do and how – the whistle-stop tour. I'll keep this chapter short!

I've long been impressed by Mil-Std-973 for all the wrong reasons. It says exactly what configuration management is while remaining unintelligible. That document has been superseded, indeed pdf copies on the internet are scans of typewrite written text. Configuration management shouldn't be obscure. The whole team must have appreciation of and a passing understanding of the services provided.

The simple description is that a configuration item is anything a project makes or acquires. Configuration Management tracks Configuration Items (CIs) through out their life-span.

All the items in the product backlog (or product breakdown structure) and all their component parts are CIs. All the project's records, reports and plans are CIs. A Configuration Item may be made up of other 'child' CIs and may be a component of a higher level CI.

If I buy a car that is a CI, so is the engine, so is each of the pistons, so are the piston rods, piston heads and piston rings. The car is a top level CI integrating all the lower level components. If the purchase includes a 5 years free servicing agreement then that is another top level CI.

When each of the project's outputs are defined we have identified a Configuration Item. As we specify each CI's product quality criteria for acceptance we define the condition under which Configuration Management will update the records of the Configuration Item's evolving maturity and our status reporting [\[\[See Chapter 23 Ch 23\]\]](#) can recognise value earned. The Quality Planning defines the required product and process standards. Configuration management is the product gatekeeper looking for evidence that standards are met then storing the intermediate or final Configuration Item before integration or delivery.

The product's kanban steps or work breakdown structure, work package and activity definitions and activity dependencies defined the maturity path the Configuration Management will record maturity along. We can schedule by PMBoK-Guide processes or agile methods. Either way the sequence of development steps must be known to deliver the result and cm is the low level technical progress recordings. It is stock control for what we make, what we buy, what we assemble and what we deliver or archive.

As the products in the final configuration to be developed (whether delivered to the customer or needed as intermediary items in the development process, such as test cases) are defined, so are the tests that mark their provable maturity, their integration path to higher level items (such as pistons

in an engine, engine in the F1 racing car etc) are defined and we are ready for work to commence. Definition may be 'up front' or incrementally.

As work proceeds Configuration Management should do the record keeping to mark off every product's journey along the path of

- Work in Progress,
- Ready for Item or Unit Test then
- Passed and Ready for integration or Awaiting rework, then
- Integrated and ready for sub-system-test and eventually
- Ready for demonstration and if passed again
- Ready for delivery then
- Delivered and finally
- In-maintenance.

The rich set of progress data is exactly one of the keys to reliable status reporting because status should only advance on evidence from quality control (testing) activities [\[\[See Chapter 23 Ch 23\]\]](#) and [\[\[See Chapter 24 Ch 24\]\]](#).

Everything made or acquired by the project should be given a storage location until it is shipped to the customer. Control of items such as documents and software or engines or building foundations have different storage needs. Clearly foundations are not stored somewhere pro-temp. An engine's pistons might be purchased, stored, issued and installed in the engine which is then stored till taken as a unit and installed in the car. Also documents (and other items) often undergo revision. Configuration Management should keep account of which version is current and who is supposed to have current versions.

Thus CM is a really useful tracking tool for the Project Manager. But to be useful tracking and record keeping need to be attached to a reporting capability. If the information is not a natural by product of the technical work being done then loud alarm bells should ring in your head. The results aren't being tracked and or aren't being checked and or are not being carefully stored. These are all major causes of concern for safe conduct of output development through their acquisition steps. If the technical work is not tracking the technical results no amount of project 'planning' will keep you safe!

If we add the occasional verification of the records kept we are done.

Thoughts on Application

I think the right answer here is 'Go talk to the configuration manager'. In most environments configuration management requires a record keeping tool to maintain the Configuration management Database. The CM system often integrates other functions like fault tracking. Use of the tools is generally a specialist activity.

However when you arrive at the CM's work-space a useful set of questions and requests might be "Could you let me know when Configuration Items move from a status of work not started through their life-cycle?, perhaps divided by team, maybe from some level of integration upwards?"

The tracking status on the most basic component items should only be relevant to technicians when a project is progressing healthily. When the project is troubled then a more detailed monitoring level may help.

All project documentation should of course be held safely so that is some form of configuration management storage! All project members need a mechanism to access current versions of documents. Often CM can provide access or distribution services. The CM system used for project documentation might not be the same one that is used for the project's technical components. So a discussion about the trade-offs between the project control tool's document handling abilities and the version control systems may be a relevant discussion. In general "its on my computer I'll email you a copy" only works in small, stable environments over a short timeframe.

Hardware configuration management needs some sort of physical storage – a store/ warehouse although if you build aircraft carriers storing a partly complete hull doesn't involve a store-room! Software CM also needs storage locations.

Key Points

- Start CM as soon as deliverables are identified and as soon as project documents are identified. create a configuration item record
- Apply CM to all CIs whether technical or project management
- Delegate the operation of any CM system!

See elsewhere in this book

3-5 other book chapters

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32 What Is A Team? - High Performance Teaming

A team is the greatest asset any project can have. Many organisations have lost team working in favour of a baton passing relay approach across cells in a matrix structure.

Professors Takeuchi and Nonaka's 1986 Harvard Business Review article "The New New Product Development Game" explains the (then/still?) world dominating Japanese approach to new product development using the very western analogy of a rugby match. Here are scrum's roots. Takeuchi and Nonaka's observation is that in rugby teams when a team member passes the ball they keep running to stay in support of the current ball carrier. In a relay the runner stops after passing the baton.

Transforming a group into a team isn't hard but it takes time, a goal, leadership and interdependence for success. A team's strengths come from their shared mental models, variety of perspective and natural willingness to embrace shared goals. Groups and teams need different styles of management or leadership.

With deft leadership a team can be told what, asked how and relied upon to deliver. But watch-out; a strong team takes its own direction, selects its leader and is the most probable cause of scope creep [\[\[See Chapter 21 Ch 21\]\]](#). What they deliver might not be what you wanted. A strong team is harder to redirect than to create.

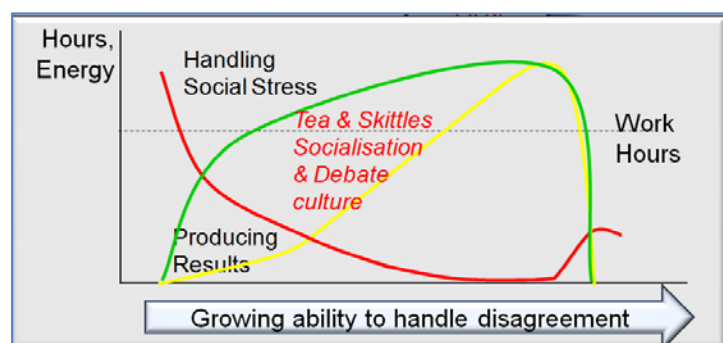
In 1965 Bruce W Tuckman proposed what the "Development Sequence In Small Groups" looked like. It is the dominant model but not the only one. Many have since questioned the model: Were his observations even right? Or Complete? Timeless across the emergence of 'Virtual Teams' (or even mixed Human Robot teams*)? Particularly Connie Gersick in her writings like "Time and Transition in Work Teams: Toward a New Model of Group Development".

*Yes you did read that right. I think it is comforting that researchers are already exploring how you give a voice commanded wheelchair the ethical understanding to decide when not to follow an instruction that would endanger the user.

Group development is important to us because it influences the development of Shared Mental Models (SMM). SMM are the most significant factor for achieving success. Gersick's Punctuated Equilibrium Model (PEM) suggests that shared organisational culture affects or displaces Tuckman's model. Tuckman is the start point.

Tuckman's model examines a group's social and task oriented journey across time. Initially he listed 4 stages of development with rhyming names which probably has much to do with how often his model is repeated.

The four stages are known to many as:



1. Forming. Getting to know each other by testing topics that find where we have aligned and divergent views. Establish the task and the 'ground rules'.
 2. Storming. Arguments develop because we know enough to disagree but not how to solve disagreement. The emotional response to the task and to tension between individual identity and group membership emerges as the balance between 'expertise battles' or expertise as individual asset. Internal social positions are established.
 3. Norming. Cohesion and group norms appear. 'Relevant opinion exchange' or expertise as group asset replaces expertise as weapon in the internal positioning battle. Disagreement starts to become a useful mechanism to explore challenges and find 'crowd sourced' solutions.
 4. Performing. Roles focus and team focus settle on goal achievement and emergence of solutions.
- 12 years later in collaboration with Mary-Ann Jensen Tuckman revisited the model and added:
5. Adjourning. The passage through closure of the team's time together.

Others researchers offer either complete replacements or equally and concurrently valid observations, minor criticisms, additions and parallel cycles. What Tuckman didn't expose is the concept of Shared Mental Models (SMM). Research shows it is the emergence of a SMM that predicts team performance. References to shared mental models use terms like "Corporate Culture", "Human Capital" and "Social norms". The purpose of planning is the creation of Shared Understanding (SMM of goal and how to reach it) and the creation of a shared commitment (teaming). Before we talk more about all these facets of shared mental models let's touch on other models, Virtual Teams and those robots!

Research that starts at interpreting voice commands to wheelchairs first considers how to interpret 'second door on the right past the stairs' so that action is possible. A voice command requires "Shared Mental Models for Human-Robot Teams". The inevitable progression is to consider "if the machine intelligence knows what the instruction means does that mean it must follow it?"

Isaac Asimov concluded long ago in "I Robot" that there was a hierarchy of laws here. Exploration of the human-robot interface continues through "RhetorEthics, or – on Implementing an Aristotelian approach to Machine Ethics". The interpretation and response to questions of ethics in Human Robot Interactions is truly underway (E.g. "Novel Mechanisms for Natural Human-Robot Interactions in the DIARC Architecture") but I anticipate this book will be in a later edition before I can say much about how to use the research. What is current are 'Virtual Teams'. A phrase I dislike.

When ever I work in a team where we were not geographically, physically co located (and I am in several right now) we were as much a team in the senses that are essential as many 'everyone in the same room' groups and more so than some.

'Team' is a shared state of mutual appreciation and state of mind not a consequence of location. A team that is a team is real wherever the members sit, shit or sleep.

There are many definition of 'Team'. A useful one is a group of people (ANT [\[See Chapter 16 Ch 16\]](#)) already allows for non-human agents and the robots are already arriving) that have a shared goal and (the 'and' is key) between them possess the combination of abilities required to reach the goal. A team is a group who are mutually interdependent on each other to achieve their (individual) and shared goals. They may also be rewarded as a group (if you are sensible!) rather than as individuals.

Team research has moved on since Tuckman (or at least relabelled some important concepts) to focus on team performance. Team performance is correlated with the shared mental models the team possesses and where in the task's timeline the team is. SMMs include working practices, social interactions, the operation of equipment and use of procedures, value systems norms and constraints, mutual appreciation of similarities, interaction patterns and differences, individual's preferences, attitudes and likes and goals – individual and shared.

Tuckman effectively chartered the journey of individuals in a group from unwilling to share personal information to willingness to share as trust and humour (the safety value) developed across the group. As willingness to share feelings, wants and needs grows so the group move into a state when shared mental models can develop (people don't generally share wants and feelings when it might empower others to withhold them and thus tilt the playing field). Ability to disagree constructively is crucial to the search for best solutions.

Some disagreements with Tuckman's model note that a staged model of development isn't correct. Reality shows that stages are missing, concurrent or reversed in different groups. Connie Gersick found teams that started as individuals with some shared norms, such as they worked in the same company before being assigned to a 'team' progressed in a state of punctuated equilibrium.

Basically she says "the first half of the allotted time is spent following behaviour patterns set in the first few minutes" when this results in not making much progress then later there is a reckoning in an 'Oh Shit, we need to get on with this' moment. That moment she observed to always be at the allowed duration's halfway point ("Time and Transition in Work Teams: Toward a New Model of Group Development").

Gersick's observations show that task and team dynamic decisions can be made almost instantly and at the start of team forming. The mode that is set then continues in a stable state due to inertia. Across all her research groups the halfway point triggered "concentrated, revolutionary periods of quantum change". She states that the halfway point is the only time when "three conditions are true at once: members are experienced enough with the work to understand the meaning of contextual requirements and resources, have used up enough of their time that they feel they must get on with the task, and still have enough time left that they can make significant changes in the design of their products."

The half-way transition is an opportunity not a guarantee of appropriate change while the speed with which the initial framework is set suggests that it is the result of pre event framing and shared organisational and personal scripts that determine the initial direction. Leaders targeting success should prepare against two foci: get the context right at the start and use the mid-point opportunity wisely.

Subsequent work by Dennis, Garfield and Reinicke in “A Script for Group Development: Punctuated Equilibrium and the Stages Model” suggest that groups with a strong prior shared culture have a tendency to will follow Gersick’s punctuated model while groups in a disrupted context of novel challenges and diverse cultural norms travel the Tuckman path. Leaders of groups on the Tuckman path must also realise that aversion to conflict and excessive diplomacy at the forming/ storming boundary denies the group the chance to reach the norming and performing levels.

Unsurprisingly the literature tells us that shared mental models develop most quickly and are richest when team members have the most shared interaction. Historically maximum shared interaction has been achieved by being collocated. It is quiet possible, maybe even likely that web 2.0 changes that. There is evidence that comments made electronically can be less guarded than those made face-to-face and certainly electronic conversations are much more likely to run 24 x 7 x 52 than face-to-face ones. None of my work colleagues from my first 20 years knew what my cats look like. Now thanks to instagram (51monHarr15) and facebook they all do (and you can).

Before we move on we should also acknowledge the suggestions of Stewart Tubbs to apply Bertalanffy’s General systems theory to groups in “A systems approach to small group interaction”. Bertalanffy took an view that both Complex Adaptive Systems (CAS) and ANT proponents would recognise; everything is connected to everything.

Tubbs then applies to groups the consideration of inputs, outputs and throughputs, and thus feedback (current output as a current input) across the three areas of background factors, internal influences and consequences. Background inputs for example includes each individual’s personality and the organisations shared values while internal influences are the individuals behaviours as shaped by the composition of the group and its goals and tasks. Tubbs’ observation of feedback contributes a description of the mechanisms by which Gersick and Tuckman’s processes transition between stages.

Thoughts on Application

Hierarchical Command and Control is beneficial at the start when people are in groups that are not yet teams. Groups follow leaders until they have established the mechanism for debate and disagreement. Group forming takes time and attention that is not, therefore available for other activities. As team emerges so a collaborative or coordinating rather than directing approach works best. Directive methods are also ‘best’ when deadlines and crisis need to be addressed by swift action launched without debate.

At all other times the more parallel work in progress the better the project’s delivery schedule will be. Of course we are assuming the work can usefully be streamed and time is a priority.

Assuming the dynamics of moving from group to team have happened or is in progress so that mutual appreciation and shared mental models already exist then we can expect Gersick’s Punctuated Evolutionary Model to apply. Otherwise we are into Tuckman territory.

Ideally we want to start the team off with a clear view of target and constraints. A Benefit delivery test’s Change Exit Test (CET) [\[See Chapter 8\]](#) is a useful mechanism. We want the team to pool

perspectives, skills and will in order that required outputs in technical and social senses are identified [\[\[See Chapter 10 Ch 10\]\]](#) and [\[\[See Chapter 36 Ch 36\]\]](#) and then tasks and task sequence identified [\[\[See Chapter 13 Ch 13\]\]](#) and [\[\[See Chapter 14 Ch 14\]\]](#).

Useful techniques for understanding interdependency at the task level within and across teams includes team based use of precedence modelling (as used in the calculation of Critical Paths). Task dependencies and task duration determine delivery dates and coordination needs. When calculated delivery dates do not match the business' Benefit delivery test date then the team is informed of the challenge to find viable solutions. On the journey from group to team the responses to challenges are formative.

Key Points

Project success in both the output and outcome sense, from both supplier and investor perspective is created and enhanced by forging shared mental models. Unless a very specific decision is made to create a role focussed on team building then the team participant most directly responsible is the project manager's role. The Project Manager's role is specifically tasked with team development, team cohesiveness, sharing of mental models, and perhaps creation of or at least seeding the models for collaboration.

Put another way the 'Beer (tea in some parts of the world) and Skittles' budget is the budget that truly belongs to the project manager and is the most important elements of success; projects are delivered by people for people.

See elsewhere in this book

3-5 other book chapters

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33 Continuity Matters, Discontinuity's Impact - Handovers from Sales or From Tech to Ops

Where I live “to ken” is to know. In general ‘ken’ has roots in ancient Norse as “to perceive”. As a change or investment or project progresses those involved perceive (ken) more and more that informs their evaluation of possible actions. As situations requiring judgement arise the people involved refer to their record of the history to date and the target state to guide their decision making.

It would be good if projects or even just the development life-cycle portions could rely entirely on easy, swift, complete recollection of history and direction but every hand-over introduces a break in the chain. Handovers between sales, development and operations are unavoidable. These are not the only handovers about which we must have active means to address. All handovers create a potential disconnection.

Savolainen and Ahonen bring our attention to the specific cause of lost knowledge at the major commercial junctions. Their paper “Knowledge lost: Challenges in changing project manager between sales and implementation in software projects” explores the reason that the ‘incoming project manager’ assigned to manage a project sold to a customer often has little background knowledge of the client, their staff, concerns and hot buttons, needs and wants.

Savolainen and Ahonen’s research explains that the ‘sales project’ or business winning phase and the product delivery (development project) phases are likely to be run by different people due to skills sets. Assignment of the development project manager happens at the time the order is a firm commitment. Earlier intention may have made notional assignments but it is the coincidence of availability at the time the reliable commitment to commission activity arrives that really determines who is assigned.

Where a department exists to run projects or to deliver internal services, for example an internal IT Department then the same processes happen on internally resourced projects.

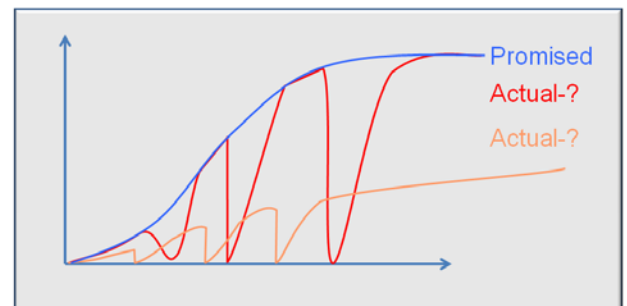
Communications between people (or more widely agents) is rich and complex. Not least because what is said (written etc) and what is ‘heard’ (what is absorbed from what is read etc) is affected by the medium of transfer and the life experiences and opinions of those involved. The PMBoK-Guide (and many other sources) refers to it as the Sender Receiver Model (Fig 10-4 pg 294 5th Edition). ANT is an exploration of the factors [\[\[See Chapter 16 Ch 16\]\]](#) in the spread of effects of messages.

I recall a swap in sponsor of a project I ran long ago whose impact in terms of loss of agreed direction and absorption on both our parts of the other’s views was a contributor to blessed termination. For many years I have worked with people in projects in the defence industry where it is routine for their military opposite number to be periodically ‘rotated’ into a new role. While there may be many benefits the impacts contribute to defence project’s reputation for costs and schedule impact. The negative aspect have received mention in the National Audit Office reports. Action is probably unlikely until the costs is included in the baseline in advance rather than as a later overrun.

In all cases advanced fore-thought of dis-continuity can reduce the impact on the organisation's degree of success. In all cases it is an easy and appropriate observation to make that there is an undeniable impact. If we cost the impact and include it in the benefits profile the affect on benefits is visible. When an impact can be costed then presenting and evaluating the options that address the impact is easier. Making decisions to address the impact is easier What is visible is felt and what is felt causes (re-) action.

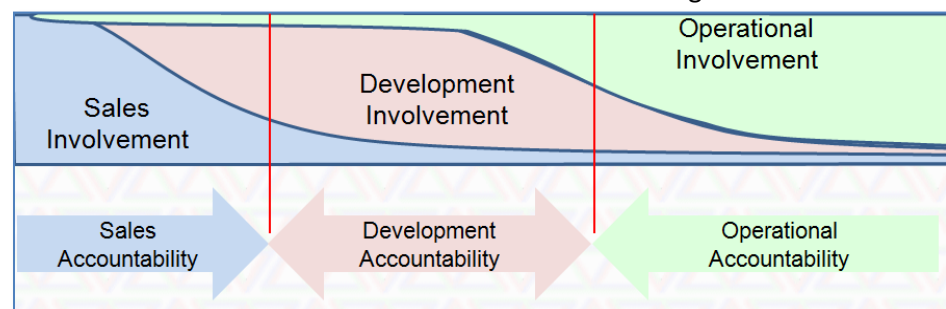
Thoughts On Application

The operations director of a client I work with in the oil and gas industry have projects whose development timeframe from 'Country Entry' or Block entry to 'First Oil' can span a decade or more. Clearly continuity is impossible for two reasons. The time frame and the experience needed to oversee phase whose character moves from negotiation of permits, to design and construction of oil field infrastructure to running of operations are different. The operations team draw a graph like the one here to show the impact. It is easy to add financial assessment to the picture.



To bring the actual up to the promised has been subject to long running internal focus. One key part of the solution is that continuity of decision making from contextual understanding of shared mental models is (all other factors being equal) a significant contributor to operational success. Keeping the same people does not work; the investment journey requires the leadership team has different specialised skill sets at different times. Instead the model is illustrated in this diagram.

[[Picture XX Cross
Project
Accountability
Diagram



In chapter 11 of his book "Strategic Planning for Project

Management" Harold Kerzner illustrates another facet of lost knowledge. An organisation's investment in project management does not result in an increase of capability if there is leakage due to factors such as resignation, retirements, complacency and resistance.

We have more handover thoughts that are important. First a product view. Each handover is at least one "I" and a "C" in the RACI chart, as well as at least one "I" and "O" in the SIPOC, a flow in the DSM and a dependency in the precedence model. Across each of these handovers the corresponding definitions of the ins and the outs should be checked for a match across each interface between steps.

The inputs, process standards and outputs of each step must also be confirmed. The first test ensure “I get what I expect” and the second test ensure it is correct, complete and contains no elements of scope inappropriately ‘grown’ by the preceding step’s enthusiastic team doing a better than required job.

Also a people view. If the organisation draws staff ‘from the bench’ for projects and returns them afterwards and if sitting on the bench has a stigma or even an employment risk then some work will be delayed by its ‘owner’ who has not yet found a new assignment. Some will get rushed by an owner has somewhere to go or will just be dropped when they rush off elsewhere. In the worst case work will be delayed and completion will get dropped! Continuity matters and the project manager role exists to facilitate its maintenance.

Key Points

Roles involved in use and their actions

The ‘cost’ and ‘benefits’ that motivate use

Sources & References; Full source & ‘Of Interest’

See elsewhere in this book

3-5 other book chapters

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Further reading

[\[\[More refs\]\]](#)

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34 The PMs Personal Skills; Motivating, Mentoring & Coaching - Making time for your people

Project managers do not deliver projects (or benefits); at least not directly. All benefit delivery comes from the operational use of human capital and fixed assets [\[\[See Chapter 18 Ch 18\]\]](#). Project teams transform capital (they change it from say cash and development skills into, for example a production line, skilled staff and a customer base).

Project managers facilitate teams to deliver.

If as project manager you are not building a capable team then your actions don't match your role-title's key competencies. The key actions are the building of communications paths between people with goals and people with expertise and people affected by change.

Project managers mentor groups. Success is when a team emerges [\[\[See Chapter 32 Ch 32\]\]](#).

The most important 'competency' the project manager contributes is explained in the Charles "Chuck" Swindoll quote "The longer I live, the more I realize the impact of attitude on life. Attitude, to me, is more important than facts. It is more important than the past, than education, than money, than circumstances, than failures, than successes, than what other people think or say or do. It is more important than appearance, giftedness, or skill. It will make or break a company ... a church ... a home. The remarkable thing is we have a choice every day regarding the attitude we will embrace for that day. We cannot change the inevitable. The only thing we can do is play on the one string we have, and that is our attitude ... I am convinced that life is 10% what happens to me, and 90% how I react to it. And so it is with you ... we are in charge of our Attitudes."

Attitude is infectious. Optimism is a choice. The negative attitudes travel immediately, the positive ones can be slower but they do travel too (when the best leaders have finished the people say we did it ourselves).

Team attitudes are a combination of infections! Everyone inside and outside the team has an effect. The affects they have also cover an assortment of factors. For example if I'm fact oriented, big picture, an explorer and laid back and your fact oriented, detailed and methodical I may relax my fact gathering orientation because your there to cover it.

There are a whole battery of assessment models that measure individual outlooks on life and predispositions towards varying useful team contributions. Most are named after their inventors and carry a TM A short role call includes:

Myers-Briggs MBTI (Type Indicator) which classifies individuals on four continuums drawn from Carl Jung's theories. The four axis are two rational judging-deciding functions; thinking and feeling and two irrational perceiving-gathering functions; sensation and intuition. The extremes are Introversion (reflection and ideas) and extroversion (action, behaviour people and things). The result is one of 16 descriptors (E or I)(S or N)(T or F)(J or P), all of which are positive about how we interpret our experiences and make decisions based on interest, needs, values and motivation.

Extroverts like: act-think-act, breadth of knowledge, frequent interaction and are energised by being with people. Introverts like: reflect-act-reflect, depth of knowledge, substantial interactions and recharge themselves with solitude.

Belbin teams roles inventory places individuals into a preferred and secondary role out of 9 types whose qualities (rather than labels) are; ideas person, explorer, coordinator, driver, judge, social smoother, action taker, focus to the end, skills specialist.

The Kersey temperament sorter identifies 16 types that align to the MBTI. Kersey's 4 axis are Artisans, Guardians, Idealists and Rationales. The labels come from extending the ideas of Plato and Hippocrates. If we continue we see *SDI, FIRO, 16PF, Thomas-Kilman Conflict Mode Instrument, the Johari window/house and many more.

*Online searches will decode all the initials. The point is there are a lot of them, all of them have advocates and detractors. Some of them might even be useful! ☺

Thoughts On Application

When 'in the flow' the project manager's 'power' is the personal power of competent and the apparently effortless, smooth interactions between everyone else. Power drawn by reference to other's strength, by control over resources or by hierarchical title can deliver but is less likely and certainly less rewarding for everyone touched.

When done well a project manager's desk and diary are empty, their thoughts are of tomorrow's challenges and they are ready to immediately field escalations. Ditto the sponsor's readiness for escalations [\[\[See Chapter 20 Ch 20\]\]](#) is in balance with their expression of project urgency (and note Net Present Value is dependant on cash-flow dates. The earlier the better).

The project or change manager's duties are to help the business formulate the destination [\[\[See Chapter 8\]\]](#), reconcile the wider affected organisation to change's inevitable arrival [\[\[See Chapter 11 Ch 11\]\]](#) help the sponsor provide the CSFs (Critical Success Factors) [\[\[c19 Ch 19\]\]](#) including experienced people, forge those people into teams [\[\[See Chapter 32 Ch 32\]\]](#), translate end points to key enabler events [\[\[See Chapter 10 Ch 10\]\]](#) and [\[\[See Chapter 13 Ch 13\]\]](#) and into sprints and releases or phase and stage based actions [\[\[See Chapter 13 Ch 13\]\]](#) and [\[\[See Chapter 14 Ch 14\]\]](#) that run through benefits delivery [\[\[See Chapter 15 Ch 15\]\]](#) and then withdraw to a new challenge or return to an operational stance.

When the project is complex in the sense that: interactions will cause emergence, the route to the endpoint cannot be described in advance, the problem is a mess or wicked [\[\[See Chapter 16 Ch 16\]\]](#) or [\[\[See Chapter 36 Ch 36\]\]](#) then the project manager must ensure that team members can debate and argue [\[\[See Chapter 37 Ch 37\]\]](#) and span boundaries [\[\[See Chapter 35 Ch 35\]\]](#). The best control at this time is via target, attractor, trigger, monitor and react not pre-plan [\[\[See Chapter 16 Ch 16\]\]](#). As solutions emerge so sprints or stages can be scheduled. Schedules can be managed via a kanban pull or critical path or critical chain, drum-buffer-rope or line-of-balance methods.

Leading the group to be a successful team includes supporting the sponsor in resource acquisition, supporting the team members into and out of conflict, acting as the project's spokesperson day to

day and being protector of focus on each participant's personal wiifm* linked end-point. We must shelter our people from anxiety that takes them beyond their performance zone.

*What's In It For Me?

In many internal projects and in close-knit communities with a limited customer and supplier pool the project manager's intelligence gathering must also include consideration of capacity in the supplier's pool of resources versus competing demands across the portfolio [\[\[See Chapter 18 Ch 18\]\]](#). Sun Tzu's The Art of War* suggest engaging the use of spies to gather appropriate intelligence.

*A philosophical text on strategy and tactics that is somewhere between 2,200 and 2,500 years old and still relevant today.

The spokesperson role means regularly repeating the sponsor's vision in a compelling way. We must also be able to explain the current internal status in the light of current and likely future external turn of events. The spokesperson role responds to or is the conduit for questions, in both directions. The recipient of attacks! The seeker of answers and the provider of answers.

A last point. It is unlikely that 'the team' properly appreciate the project manager's real role as set out across the previous 33 chapters or in the next 6. As the conductor and orchestrator it is your role to ensure they understand your role.

See Elsewhere in the Book

Key Points

Projects are delivered by the efforts of the many. Only one role in the mix is charged with building the team. The rest are charged with building the more direct contributors to success. Without the team element the benefits success is doubtful

How the team performs is a function of the effort you (are allowed to) put into building a team, the mix of personality types and either luck or some manufactured luck if you know a little about how people see the world.

Workplace psychology tests are an unreliable but useful contributor for building understanding.

Success improves when everyone appreciates everyone else's role. Who will ensure that happens except the person with that role!?

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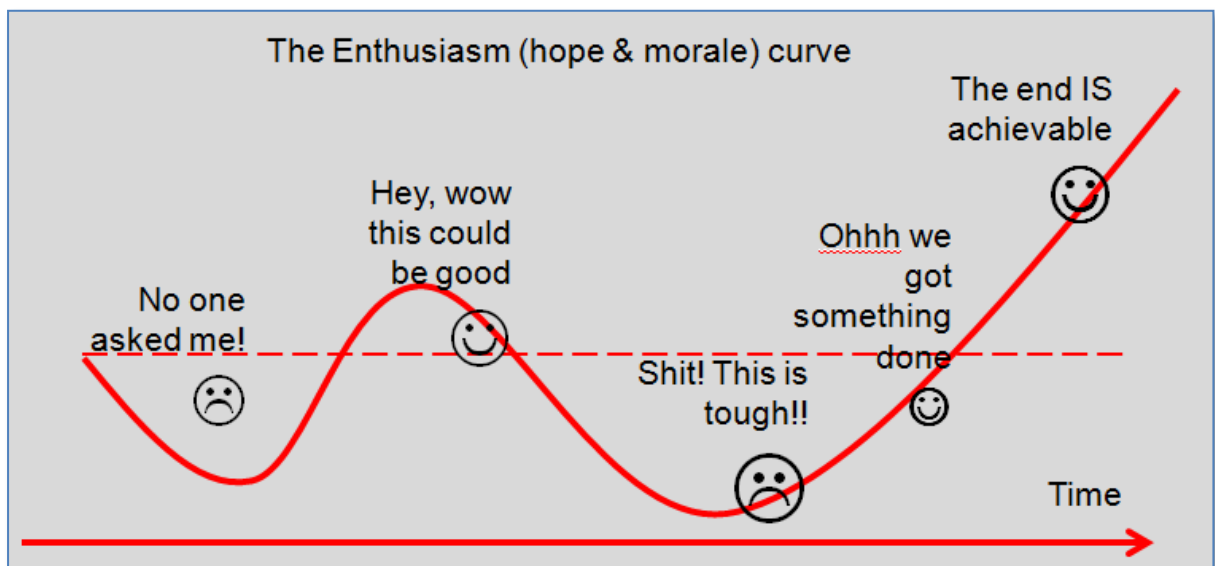
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Assertive, clear, intentional, request & respond, pro and reactive, promote yourself & others, network mentor and seek a mentor

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Top



[[Ed maybe this should be in [[Ch xx]]

35 Be well networked

This whole chapter might just summarise to “it ain’t what you know but who you know”.

Is a Project Manager’s job 90% communications? Many commentators say so when they point out that the role is mainly about communication. I pointed out in [\[\[See Chapter 34 Chapter 34\]\]](#) the importance of the PM’s role to enable others to communicate rather than being a principal in each communications.

Brion and co.’s research into the success of project managers “Project leaders as boundary spanners: Relational antecedents and performance outcomes” shows that organisations that want to prosper should select and promote project managers based on the breadth of their network of contacts! If we want projects to prosper, particularly in markets (and social areas) where there are (constant?) emergent, adaptive needs then maybe we should help everyone be a boundary spanner straddling structural holes.

‘Boundary spanning’ simply means “have links with people in diverse groups”. It’s a parallel with “travel broadens the mind”. ‘Structural holes’ are disconnected segments of networks in the ANT or Six Degrees of Separation* sense.

*Network theory (the sort that has nothing at all to do with TCP/IP) says that everyone on Earth is only six or less links or introductions via an acquaintance of an acquaintance from everyone else on Earth.

Being able to span has value. For the whole of this book so far I have repeated variations on “The project manager’s job is to build shared mental models” and “the Direct layer of the organisation combines external pressures with mission and values to produce vision” and “when a cascaded, delegated ‘what we need is...’ arrives it is the peer groups job to backcast or decompose to a ‘How we will deliver that is...’ agreed set of actions”. Now I’m changing my tune. Meeting people from strange new cultures with who you have no shared mental model is a fertile source on new insights and ideas.

Burt’s papers report numerous example of organisations and organisation types that do well by being widely connected. Of course connections have to be active. Burt argues that wide networks of loose ties generate value. A counter suggestion is that closed networks generate value. Infact both are true. Network closure in the title of one of Burt’s paper quoted here is when ‘everyone knows everyone else’ and knows what everyone else is doing. The results include being more able to trust those in the network. Closure creates value due to trust from transparency. Open outcry markets have flourished through just this mechanism. Openness also crates value from diversity of idea.

Now our value might need a change to spark from emergence. When the problem is too alien to design a solution then define the goal, mix the people up without a plan and monitor for the emergence.

Thoughts On Application

Several authors point out that well networked people tend to be promoted earlier and further (an observation that if you turn it into action will return more than the price of the book on its own!).

If boundary spanning across structural holes is of value (or to decode if connecting with isolated new groups is of value) then a question is which groups? Any silo'd professional tribe is a good candidate. Likewise people in other disciplines, the same discipline in other organisations, the same discipline in other industries (My inspiration here is Long, Cunningham and Bratwaite's observations from within the health service research community – alien in most sense to my background).

Long et.al. conclusion include findings that being a connection broker takes a lot of first hand connecting; it is expensive, it needs support. Some links in the network are bottlenecks. Addressing the consequences of bottlenecks is the subject of Theory of Constraints project management as proposed by Goldratt.

Mark Granovetter's "The Strength of Weak Ties" points out that it is unusual contacts with people 'far way' in terms of ideas that do the most to cross-fertilise ideas and so create the potential for value or social capital.

When brokers can forge links across the network between people with insight, skills, ideas that are complimentary then wicked problems are reducible by emergence to solutions.

But perhaps the key message is "you can't do it all yourself" so the solution is not (just) to be well networked but create the capability for (at least some of) your people to be well networked and to act as broker for the rest of your people.

Key Points

- 'Travel' around your organisation, your profession, your market place, your social media and absorb ideas
- Where network ties are strong, redundant overlaps exist, the amount of 'new' information is low. Where links are far and weak it is likely that each interaction generates lots of new and potentially valuable information.
- Those of your teams members whose Belbin type **[[See Chapter M Ch xx]]** is resource investigator or plant or specialist must be encouraged 'travel' too. You rely on them to generate the flow of ideas that the monitor evaluators can discard or pass into the team, that the shapers can coordinate, the team workers can focus on delivering and the finishers can dot the "i" and cross the "t"s on.
- Personal promote-ability improves with connections established.
- How the opportunities created by boundary spanning play out as BYOD and Web 2.0 and Enterprise 2.0 and Millennials in the work force becomes more and more central will be interesting. It is likely that the millennial builds personal capital that enhances the organisation's capital for as long as the organisation is attractive. For many years Charles Handy's writings have been plotting and analysing the shift from life-long employment delivering physical labour to sub-contracted to many employers delivering intellectual services

See elsewhere in this book

3-5 other book chapters

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36 Workshop Purposes and Types

At the start of a change two themes need to be elaborated; what and how. When following best practises they are explicitly separated and treated differently. When we separate the two questions we see that the purposes, audiences and results of asking each one are different. The steps, tools and techniques to address each question have overlap but are also differentiated. Both are well served by being addressed in question specific workshops [\[\[See Chapter 37 Ch 37\]\]](#).

There are two quiet different types of early workshop within the layers of an organisation setting off on a change journey. A framing session is where boundaries are defined. A kick off is where boundaries are explained and actions defined. Framing uses the change's external triggers plus mission, values and policy [\[\[See Chapter 8\]\]](#) to answer "so what are we going to do?" Kick-off answers "How are we going to achieve the targets that framing has set?"

When the question to be answered starts "What...?" then framing is the right tool. The discussion is likely to be grappling with one of Russell Ackoff's messes within the hierarchy of Purposeful Systems [\[\[See Chapter 16 Ch 16\]\]](#). How a destination is framed is crucial to all future emotional reactions and hence decision making. As we saw in [\[\[See Chapter 17 Chapter 17\]\]](#) many television advertisements frame their bank holiday weekend special offers knowing you are more sensitive to fear of loss than you are attracted to the prospect of gain. Professors Tversky and Kahneman have written much about the terms 'framing', 'anchoring', decision making under uncertainty and the fear of regret (Prospect Theory). As previously noted Daniel Kahneman won a Nobel Prize in 2002 for his behavioural economics work.

In Framing participants are mostly a peer group setting their shared 'agenda' rather than implementing a strategy received from above.

Kick-off is the right tool when a leader is asking "How...?" Kick-off is the tool to use when cascading objectives across the boundaries between Direct and Manage or Manage and Deliver.

Thoughts on Application: Framing

The only required participant of a framing session is the sponsor. Framing defines end point and constraints. [\[\[See Chapter 8\]\]](#).

It is the sponsor who is the single point of accountability in the care of capital. Sponsors pay the bill and reap the rewards as the owner, or by proxy as owner's steward or agent or leader of a family, a board, a committee, or a community.

A framing session's participants are normally more numerous than just the sponsor because the sponsor's success frequently rests on the committed assistance of a wide stake holding group. A framing session allows the sponsor to gain commitment because it allows stakeholders to participate and so influence direction.

Framing considers the complete business journey to the future JHWDIAH (Just how we do it around here) state of re-stabilised 'Business' as usual.

The result of being involved is understanding (the shared mental model of the end-point). Understood vision enables disagreement which with the right team development [\[\[See Chapter 32 Ch 32\]\]](#) and leadership [\[\[See Chapter 34 Ch 34\]\]](#) creates debate. Debate explores concerns and in a team at least; 1) encourages expression of individual desired WIIFMs* [\[\[See Chapter 17 Ch 17\]\]](#), 2) encourages emergence of a consensus on acceptable results and 3) intended actions that remove or overcome objections.

*What is in it for me

When stakeholders see how the leader binds the community to an end-point and depends on them for achievement and the community can see how achievement satisfies their own aims through the leader and their peers then commitment is enabled.

Framing and kick-off both aim to enable commitment. Framing to what and kick-off to how.

The agenda of a framing session might run something like:

- Standard workshop opening 'stuff' [\[\[See Chapter 37 Ch 37\]\]](#)
- Sponsor's description of the context that makes action mandatory and any pre-conceptions and constraints the sponsor brings as starting conditions. For example timescales.
- Invitation to all to share insight by listening, proposing, evaluating and reflecting†
- Summarisation of options to which participants can commit
- Confirmation of a consensus and unanimous commitment to an end point
- Of course there is some idealisation here. It may take several sessions to traverse the list, unanimity may be by allowing those with deep reservations to 'check-out' rather than sign-up. Agreement may extend only to lip-service rather than real energetic action; there is always some politics.
- The framing sessions outputs can be quality checked by answering the following questions:
- Does everyone who was present answer the question "what was the outcome and what is the goal?" with the same answer?
- Can everyone describe the backcast plan from vision through key enabler events [\[\[See Chapter 8\]\]](#)?
- Does everyone responsible for delivering see a personal benefit from the journey?
- Does everyone understand their own role?
- Does everyone appreciate their dependence on everyone else for success?
- Is everyone prepared to help whoever needs assistance whenever they need assistance (if only to secure their own WIIFM from the final result)?
- Does everyone agree success within constraints is within the sponsor's power, will and determination to achieve?
- A caveat on the above is "what evidence of group versus performant team behaviour was in evidence, does the sponsor recognise how to capitalise or remediate?"

† The quality checks clarify or define the content of the heart of the agenda.

Framing's output is a significant part of kick-off's input

Kick-Off

The required participants to kick-off sessions are everyone involved in delivering the framed vision's scope and their direct upwards chain of command to and preferably including the sponsor. Kick-offs agree the steps and interdependencies in the journey. There may be a separate kick-off hosted by each framing session attendee with their reports.

A kick-off session's participants must be all the people at a consistent peer level of interdependence who define the solution's architecture and acquire (make or buy) the parts, test and integrate (and test) the assembled solution. Kick-offs may adopt a peer release/ rolling-wave pattern..

The purpose of kick-offs should cascade. At lower levels kick-offs may be a pseudonym for sprint planning meetings, scrums and daily tool-box talks (in which case the routine length of the upward chain of command might stop at team leader and only periodically attract participation y the 'bosses').

The result of involvement is as for framing; influencing direction through debate, arriving at consensus and a clear view of WIIFM.

The agenda of framing sessions might run something like:

- Standard workshop opening 'stuff' **[[See Chapter 37 Ch 37]]**
- Senior accountable person's description of the context that triggers action, the target to be hit (the Benefit delivery tests' "what we will see") and constraints. They should then exit. Returning at the end for a 'wash-up' session.
- Invitation to all to share insight by listening, proposing, evaluating and reflecting†
- Return of senior person to hear proposals, clarify questions, sanction actions

Similar idealisations remain here as above.

A kick-offs session's outputs can be checked by answering the following longer list of questions:

- Does everyone who was present answer the question "what was the outcome and what is the goal, what are the reasonable routes and what is the currently agreed balance of options?" with the same answer?
- Does everyone responsible for delivering see a personal benefit for the journey?
- Does everyone understand their own role, their dependence on everyone else for success and the triggers or timing for collaboration?
- Is everyone prepared to help whoever needs assistance whenever they need assistance (if only to secure their own WIIFM from the final result)?
- Does everyone know the tolerances for escalation and the escalation path?
- Does every point of escalation know and commit to their accountability's duties?
- Does everyone agree the basis of estimate and the estimate's contents defines generation of status tracking data
- Does everyone know and understand process quality and product quality specifications and the matched quality control activities

- Does everyone know and understand the configuration management procedures related to the products they use as inputs and create/ acquire/ integrate as outputs?

† The quality checks clarify or define the content of the heart of the agenda.

The question of observable teaming is also relevant in kick-off.

To meet the quality checks participants need to 'bring with them' subject matter expertise sufficient to design solution architectures, perform quality planning*, construct relevant configuration item's basis of estimate and determine task interdependency. The range of size and formality may be from a few people's discussion a product backlog in a scrumban context to multi-day off-site planning retreats.

Key Points

Framing defines boundaries, kick-off communicates or imposes boundaries. Framing is most likely conducted only once at the top of the organisation for an entire investment life-cycle. That might really mean 'once at each level of the Direct, Manage, Develop/Operate hierarchy'. Kick-offs are needed repeatedly across time and teams at each tranche and stage or phase or release boundary.

Kick-offs are conducted sometime after the framing session. The kick-off's aim is to align everyone to the same targets and constraints and approach. When the organisation's culture understands clearly why and how to separate the two you could combine them again but I advise against it in anything other than a 'Temporal Ambidexterity' sense [\[\[See Chapter 6 CH 06\]\]](#).

Framing's most important and perhaps only active participant is the project's investor(s). Kick off's are everyone across project delivery team and the operational groups.

At a framing session the key questions are "where is the end-point" and "what are the limitations". Good tools to use to describe the answers are Vision/ Goal/ Destination Statements and the Change Exit Test and Benefit-Flow Indicators [\[\[See Chapter 8\]\]](#). Framing may backcast through Tipping – points [\[\[See Chapter 13 Ch 13\]\]](#). Kick-off must back-cast if it does not start knowing the required milestones.

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37 Wonderful Workshops; Techniques & Roles in Conduct

There is probably nothing a Project Manager does that is more expensive of people's time, more often poorly done or more valuable when done well than holding workshops.

When workshops are well run, which is not hard then they turn from depressant to energiser and coordinator. As facilitator with the 'pen' (electronically facilitated meetings bring as many advantages as they bring disadvantages) there is nothing that is more effective for immediately establishing authority to run and steer the group, even when attendees outrank you on the formal scale. Being a poor facilitator is also one of the quickest ways to lose momentum and thus credibility.

Success needs focus. When we have a group of people with relevant inputs who because of an organisation structure as a matrix have different allegiances they are not a team in the way a social use of the word conveys so someone to take the lead is necessary. 'Holding the pen (mouse)' and being mildly directive starts team building on its way to shared appreciation and ability to disagree. It is useful to be a little directive in the right places. Directive at the start can build momentum. Consultative in the middle encourages contribution. Directive at the end to focus on delivery rather than continued debate is also useful [\[\[See Chapter 32 Ch 32\]\]](#).

We run different types of workshop so need different agendas and techniques. All workshops have some common elements that can be addressed with simple, common solutions. All workshops profit from some structure and techniques.

Factors we need to consider are purpose, time, venue, roles. In [\[\[See Chapter 36 Chapter 36\]\]](#) we covered purposes related to Framing and Kick-Off. We can also add that workshops should be clear about whether their purpose is to explore options and end with options or the purpose is to make decisions. In which case it is best if they start with the options already defined.

A generic timeline might be

- Before the meeting consider; the result sought, the inputs required including people, the preparation required by each participant before the meeting, the behaviours from each at the meeting and afterwards
- During the meeting Part one; Welcome, context and introductions, definition of target end-point, contributions and summaries, analysis and synthesis and drawing of potential conclusions. Discussion might also consider the criteria for selection of potential conclusions.
- Meeting Part Two; May need to start with welcome etc, may need to discuss criteria for selection of potential conclusions, then selection of potential conclusions and agreements and assignment of actions.
- After the meeting; recording and circulating of key points and actions, confirmation of actions.

The reason to split part one and part two is to allow subject matter experts to debate and decision makers to decide without necessitating both are preset through out with all the negative potentials for diary coordination or showing-off or shyness or intimidation that can otherwise occur. You don't have to split the meeting but it can have advantages.

Other sources of advantage are a single shared evolving expression of the meetings contents viewed by everyone simultaneously in contrast to people sat behind a barrier (table) and making direct constant eye-contact.

When I meet you as a work colleague I will always show a polite respect for you but we may not be completely at ease socially. We can be if the team development processes has completed. In many organisation teaming never gets well developed [\[\[See Chapter 32 Ch 32\]\]](#). Political correctness stunts our ability to express opinions that might lead to disagreement. Developed teams have humour and social ease which are ways of being able to disagree with each other without causing offence.

If I sit opposite you around a table then being permanently face-to-face eye makes contact constant and directly. In this situation lack of eye-contact can be interpreted in many ways mostly unhelpful. If I disagree with what you say it is probably socially easier to keep quiet than to look you straight in the eye and argue to dispute your point of view by removing the table and chairs we eliminate constant eye contact. A flip-chart and a virtual presence both do that.

Many researchers have explored how the brain functions. They seek to learn the purpose and operation of the component parts and put them together into the whole. Some observations are easier than others; for example the Cerebellum is a tenth of the brain's size and half the brain's neurons. Some conclusions are harder; for example why is that, what does it mean and how do we use the knowledge?

It turns out the cerebellum's is involved in several functions and certainly more than were identified in early studies where it was established that the cerebellum controls movement. Alan and Henrietta Leiner also noted that it is involved in other cognitive processes linked to Learning.

Professor Peter Strick's studies while at the Veteran Affairs Medical Centre in Syracuse USA showed that the involvement included memory, attention and spatial perception. The learning process and the balancing process that stops us falling over share an interest in blood flow to the cerebellum. When we run a problem definition or solution search workshop we want people thinking, disagreeing and debating so increasing oxygen reaching those thinking muscles, providing a common visual model and reducing the constant need for eye contact are all helpful

Running workshops in meeting rooms where we can stand up is a good first step. This may be concrete evidence to support the old saying that people think better on their feet! A flip-chart/ white-board/ window and sticky-notes do that. A virtual presence might not add the standing up!

Creating a single commonly seen list of the points being debated means they are expressed in words and phrases that everyone shares. In contrast to individually recorded notes that use different words and often lead to conclusions with subtle differences of inclusion, exclusion or emphasis

- Adding contributions to a visible record rewards people with recognition by the group of their contribution
- A central record provides us with an audit trail of how the conversation journeyed from initial inputs through debate of relationships to conclusions and assigned actions.

- The initial raw, hand drawn record is a basis for the more formal project documentation that will follow. Participants can trace the conversation and the documentation of the conclusions to each other and their assigned actions. Photographing/ screen-grabbing a picture of the in-meeting results is simple and straightforward.

Dialogue Mapping Delivers Productive Meetings Where Debate Arrives At Conclusion Even For Wicked Problems

Simple problems have straightforward linear cause and effect descriptions that make discussion of problem and then solution and then defining an action plan easy to progress through.

When the problem to be addressed is circular and appears intractable the 'traditional' processes of discussion play to the weaknesses of group processes and decision making not to the strengths.

The frustration and social dynamics that come into play make solution less likely not more likely. Using the wrong tool like a discussion forum in these situations creates problems it does not resolve them.

What Professor Russell Ackoff called a mess in his papers "Systems, Messes, and Interactive Planning" and "The Art and Science of Mess Management" others call a Wicked Problem. 'Mess' may be a more fitting term because as Ackoff notes it is often not 'a [single] problem'; Every problem interacts with other problems and is therefore part of a set of interrelated problems, a system of problems.

"Wicked problem" is professors Kunz and Rittel's term. They suggested the characteristics of a wicked problem. Dr Jeff Conklin later reduced and generalised and Robert Horn expanded the list when talking about Messes. I have consolidated their lists and reworded too.

You might recognise the following paraphrasing as describing the beginning or even middle of some projects in your organisation:

1. Everyone is ignorant about some parts of the problem
2. It is impossible to succinctly and completely state what the problem is
3. There is no neat boundary to the problem space, every problem overlaps with others
4. How we choose to state the problem affects thinking about how to solve the problem
5. Every proposed solution exposes new aspects of the problem
6. Proposed solutions are not objectively right or wrong, just better or worse and normally from different people's perspectives
7. There is no test we can define before we start that tells us categorically when to stop. Stopping is essentially when the results are 'good enough' or we run out of stamina, money or a bigger issue arrives
8. Every attempted solution changes the problem so abandoning an unsuitable approach, then applying 'Learning from Experience' and taking an alternate approach doesn't work because the problem has changed

9. Problems and solutions are linked in a 'Catch-22' [\[\[See Chapter 1 Ch 01\]\]](#) cycle of the first step is dependant on the last step and vice-versa
 - What people say is motivated by a mixture of politics, power seeking, hidden agendas and desire for personal appreciation in the solution but not the causes
 - There is resistance to (every proposed) change
 - Those tasked with solving the problem are not intimately connected to living with the problems
 - Decision data is missing or uncertain and ambiguous
 - Constraints arise from politics and funding
 - Contradictions arise from culture and values
 - In addition others have pointed out that for some problems we have to add:
 - Finding a willing and empowered decision making authority is difficult
 - Time is running out
 - The problem is caused by the actions of the people who want it solved

Professor Rittel's suggestion to help resolve wicked problems is to make those affected by and or causing the problem into the designers of the solutions. Whoever we use we face the weakness of human spoken language as a means to explore complex problems. Some drawbacks with spoken language include:

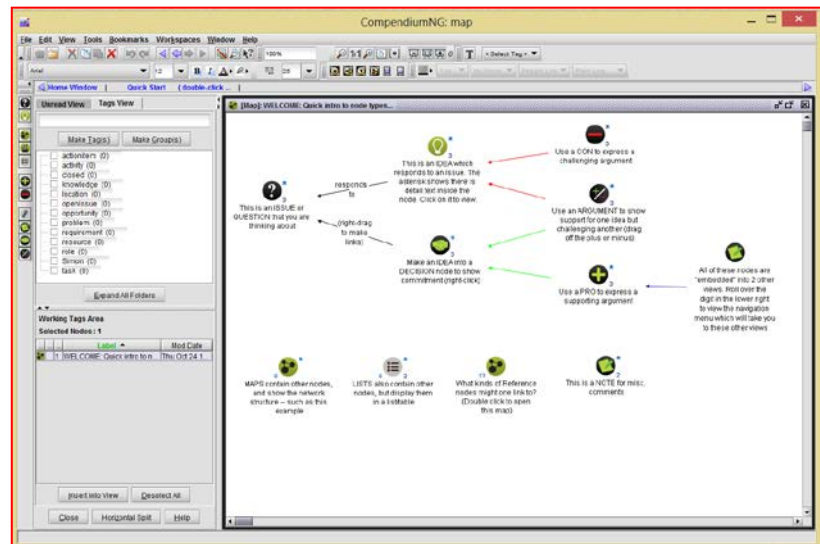
- We make different linkages between the things we hear in common. Lakoff in "Don't Think Of An Elephant..." [\[\[See Chapter 36 Ch 36\]\]](#) points out every word we use triggers a 'frame'. It is common to hear advocacy load argument with emotion through artful choice of language. Arriving at a shared understanding is error prone and slow if achieved at all.
- As Noam Chomsky has shown we distort, delete and generalise (misunderstand), what we hear based on our biases and so further reduce chances of shared understanding and agreed actions.
- People contribute different amounts to the conversation and their contributions range between unique, clear and insightful to repeated (over and over), confused and wrong.
- Until trust and friendship develop people are less likely to say what they mean completely or take what they hear as complete and honest.

To resolve a messy or wicked problem we need to be able to overcome the issues above, especially the weaknesses of spoken language.

Our goal in workshops is to combine the strength & richness of different people's observation's and ideas to arrive at a committed consensus on the actions to be taken. Generating ideas around which we can arrive at consensus depends on interaction through spoken language to build a shared understanding and commitment to a direction (a vision).

Part of our answer is to capture the essence of the arguments made in a way that has more permanence than spoken language and is more amenable to analysis and synthesis than spoken language or tracts of text. Werner Kunz & Horst Rittel designed a syntax called IBIS for recording the components of a Wicked Problem and its possible solutions. IBIS is the Issue Based Information System.

Other people have since supported the syntax with open access (free) software tools to aid the rapid drawing of 'Dialogue Maps'. (see references at the chapter's end). Creating Dialogue maps is just as easy with a white-board and marker pens, flip-charts or walls and sticky notes.



The syntax comprises

- Issues or questions – shown with a ?
- Idea or Decision – Shown with a Light bulb while an option and a Handshake when decided
- Pros & Cons and mixed impacts show with a Plus +, A minus - and a \pm symbol
- It is also possible to add links to external files, notes and lists

Because diagrams can get big it may be necessary to nest them inside each other – a process known as Transclusing. Nesting is easy with software but screen is limiting. Nesting is obviously less convenient on flip-charts but only limited by how much wall space you have!

The power of Dialogue Mapping is that it can record a conversation at the speed of discussion. It captures proposal and the links between them. It records the pros and cons as seen by different people. It builds an evolving picture that is inclusive of stakeholder's contributions. The picture is permanent, visual and visceral. Perhaps its greatest virtue is that it defeats those who would otherwise seek to win by loud or frequent repetition of their point of view. Once recorded a repeat is easily parried by "do you have a fresh point?" Any third repetition is normally met by the group responding!

Thoughts on Application

Dialogue mapping is a simple, powerful technique. To use in meetings at conversational speed needs a little practice. A simple initial source of practice material is any debate in written media – eg a news paper or any proposal document. Record the Idea and the arguments for and against.

Next any television or radio (podcast etc) current affairs debate or as a note-taking approach in a meeting. The initial use with printed materials allows you to practice finding the issues and options at your own pace until you are fairly fluent. A broadcast media is at spoken pace and without your needing to stop recording to contribute to discussion or being observed while your mastering modelling skills.

In a meeting with colleagues when using the technique the dialogue space needs to be shared and visible to all. A wall with sticky paper coloured squares or shapes works well as does software linked to a projector.

As meetings conclude so shared access to the created dialogue as an editable model or snap-shot picture or paper print is an easy way to share current understanding.

Sharing current understanding is often something we need to do for people at the edge of our projects or newly joining the project or with the team as we arrive at agreed achievements and are ready to move on

What to do

Dialogue mapping of messy problems tends to be welcome by all participants because they see the build-up of a description of at least the problem if not also initially the possible solutions. That feels like progress. The act of creating a map provides the means for everyone to have an equal voice and to voice disagreement with reasons and agreement with reasons

Participants must include

- a scribe – whose role is often the hardest – the scribe must capture what is said without colouring it with their own vocabulary or values. The scribe may be a meeting facilitator or just recorder
- Those who will live with the solutions
- Those who live with the problems
- Optionally you can include in initial sessions those who can build solutions as they can moderate between what is quick and easy or hard, slow and expensive. It is often the case though that the ‘who’ may only be identifiable once sufficient problem description has taken place. It is always true that colouring the debate with early solution thinking is ultimately a bad idea

Making progress during project scoping, planning and problem solving needs the right people involved (those who can describe the end state [See section Z Benefit delivery tests and section Y Value] those who can plot the route from the end-state to today [See Section X Backcasting], Those who have authority to make decisions [See Section W [Decision Making Without All the Facts]])

Making progress is always easier when the right people have a meeting process and tools that help turn dialogue into visible, persistent, challengeable, shared understanding.

We waste a lot of time in meetings because we don’t run them effectively. One aspect of how to improve their value is to run problem definition, opportunity framing or design search sessions as ‘on your feet’ workshop.

Key Points

Workshops help create teams and build the leader’s authority.

Ensure you prepare and follow-up

Know the meeting's type (solution exploration, context sharing, decision making etc). then use the 'Call to meeting' to signal when meetings are to explore a problem or opportunity or design solutions and actions by explicitly labelling them Framing, Kick-off or Problem Solving Workshops. Make the structure of each and the roles require something that is part of local meeting culture.

At the start invite people to cluster (stand/virtual) around a common point of focus. If the group is 6 or more people then dividing the group into sub-groups to discuss and debate then present back, challenge and integrate their ideas.

Set an agenda that separates introduction, body and close. In the introductions state the end result desired and the current status. In the body work through problem statement if it isn't yet grounded and then opinions and options. Here tools like IBIS are valuable.

In the conclusion structure expressions of the future as Benefit delivery tests **[[See Chapter 8]].**

Separate solution proposal from decision making, at least long enough to escape group-think commitment to ideas that with hind-sight are clearly triumphs of momentum over sense.

As in all things 'project' the project manager's role is to facilitate the building of shared understanding (of goal, approach, values, interdependencies, constraints etc).

See also

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A SMM of project success

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38 The Organisation's Feel & Attitudes or What its Culture makes easy or hard

In “201 Best Questions to ask on your interview” John Kador says “Most organizations hire on ability and fire on fit... employees choose companies on the basis of salary and benefits and quit on the basis of culture and interpersonal relationships”

Kador makes just under 50 references to culture in 200 pages; conclusion? It matters to motivating people. He invites job hunters to complete a Culture Survey twice. Once for a job you liked and once for the company you are interviewing with”. Sound advice. We should change the instructions slightly to be “for all the good project or initiatives around you, all the bad ones and the one you are [about to be?] running”

Kador’s questionnaire sets out scales that range from 1 to 5 with a state at each end of the scale. Eg “employees lunch together or at their desks”, “the atmosphere is pressured or laid back”. Other questionnaires divide culture into sub headings such as; focus on the performance of individuals to reward good and support improvements in poor performance. Leaders ability to communicate goals and inspire followership. Willingness to divert effort to innovate for future capability. Anticipating customer needs and willingly understand and meet needs. Ability to use conflicting viewpoints constructively to explore debate and make decisions and more (E.g. Organisation Structure, Professionalism, Communication, Goal orientation, Having Fun, Career and succession planning).

Gauging culture can be done systematically by decomposing it into areas and applying scales although we also need the system level ‘greater than the sum of the parts’ assessment too. The passive questions that establish “what is the culture” are all very well but change initiatives often need to create culture, to overcome existing culture, to merge cultures.

Mark Kozak-Holland’s Ph.D. thesis summarises his own book “Agile Leadership and Management of Change; Project Lessons from Winston Churchill and the Battle of Britain” describes how Churchill operated as project manager moulding a new culture. “One of the research findings on project failures is that problems encountered are not predominately technical but relate to the organisational culture being aligned to a project and supportive of it. ...Churchill set up a governance framework, reorganized government, and broke down the barriers between vertical organisations... Churchill imposed an increased level of collaboration and support for his principal goals.”

Purvis, Zagenczyk, McCray surveys a number of project people in organisations for their study of “What's in it for me? Using expectancy theory and climate to explain stakeholder participation, its direction and intensity”. They conclude that people’s expectancy of success and reward, as perceive from their assessment of climate or culture determines how energetically they participate in projects. We can have a virtuous, helpful or a vicious damaging spiral.

Cultural expressions can be defined that summaries countries, industries and organisations. Or example Sir Richard Branson’s autobiography is titled “Screw it, Lets Do It”, not a very likely response in a retail bank or a nuclear installation. Equally some country’s populations are more time conscious than others. At the country level Dr Geert Hofstede has characterised culture by mapping 5 dimensions 1) Degree of inequality between the most and least powerful 2) Privacy and

individualism versus community 3) 'Traditional' gender distinctions or acceptance of people's roles on their choices and merits, 4) Tolerance of uncertainty and ambiguity 5) Value of tradition over acceptance of the novel

Hofstede defines culture as "It is the collective programming of the mind which distinguishes the members of one group or category of people from another." In "Cultures And Organizations - Software of the Mind" he states that culture is a learned collection of rather than inherited. Others have sought to parallel Hofstede's country model to organisations with categories such as competitive strength of the need to win. The importance of the drive to achieve consensus. How highly prized loyalty and family are. The significance of hierarchical order. The need for impersonal bureaucracy and the need for order.

Thoughts On Application

The project's driving force as shared between senior stakeholders must both acknowledge the current organisational culture and its causes and target a future culture. If the two are different then activity will have to be included in the project's baseline to create the new. We have talked about the social project scope that delivers key enabler events to contribute to benefit delivery tests in [\[thirteen Chapter 13\]](#).

The scales that we might use to assess culture also describe the targets that we might wish to achieve to change culture. The Change Exit Test (CET) of a Benefit delivery test [\[\[See Chapter 8\]\]](#) are all expressed in behavioural terms. The aggregate of the future business state in JHWDIAH (I prefer JHWDBAH but this is less inclusive as "I" is "It" while "B" is "business" – not every organisation is a business).

OGC Gateway reviews 1 (Business Justification) and 3 (Investment Decision) specifically challenge the project team show that consideration of cultural issues is included within the baseline.

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39 New Generational Workers

As a reader of this it's a fair bet you're a Gen-Xer; born between 1965 and 1979 and it's a fair bet that your new recruits are Millennials; born between 1980 and 2001. Your boss or senior managers might just be Baby Boomers born before 1964.

Is there any significance to these divisions? Well companies are defined by their culture and clearly there are cultures defined by time. Claire Raines in "Connecting Generations: The Sourcebook for a New Workplace" describes millennials as "sociable, optimistic, talented, well-educated, collaborative, open-minded, influential, and achievement-oriented". She also comments to say "if the millennial doesn't like their new job they can quickly tell a 1,000 social connections".

Equally many baby boomers and Gen-Xers who gained experience in organisations now sell their services as contractors and consultants as remote-workers into those very organisations; less of them are employees and most of them will be gone quiet shortly. That remote-working is enabled by communications links that are newly capable in the millennial's timeframe. It isn't just a new generation entering the workforce it is also a new way of organisations engaging with the sources of older skill and a change in the pattern of access to the experience of previous generations too.

Much hasn't changed; people are people. Self-confidence and a skewed form of digit literacy is different, prevalence of data has changed, the need for co-location has changed although our adjustment to that runs at speeds that may be linked to age. The skew in the digital literacy profile is highlighted by a current Time Magazine article.

Millennials probably don't have eMail accounts and business doesn't yet use snapchat and facebook in preference to smtp and pop3 (the standard mail protocols). Millennials are not 'up to speed' or that might be 'backward-compatible' with the spreadsheets and disconnected technologies that most business' maintain in their schema of technology culture. It will, of course change quickly. App writers will respond to a demand pull for ways to generate a work-place transaction that is as easy as sending your mum a birthday card and ordering a pizza. The 'digital natives' as Time's Martha White calls them will learn fast; they have the context.

Organisations also learn fast. Job seekers these days are very likely to have their social media identity surveyed before a hiring decision is made. Particularly if they are being recruited by a Millennial. Some are enraged, others anticipated it was an obvious fact. It cuts both ways. Your new Millennial team member is likely to research co-workers. The Society for HR Management points out that there are employment law issues for the employer engaging in this form of pre-screening.

Thoughts On Application

The things millennials respond to (and perhaps everyone else always wanted but didn't have the leverage to get) are:

1. Leaders with honesty and integrity that is traceable and explainable based on the data available. In short transparency
2. Challenge and opportunity for growth, development and a career path based on meaningful work

3. Friends as co-workers and co-workers as friends
4. Group based work enabled by collaboration tools with capability beyond last year's corporate capability
5. A work 'environment' that is enjoyable, fun, rewarding, recognised as humorous in positive rather than clique, cynical and subversive fashion
6. A work environment that is independent of location. Home working will escalate its growth
7. Respect for the individual rather than for the long service award
8. Recruitment based on demonstrated ability over old qualifications
 - Flexibility that recognises a social existence beyond work as a key reason to work

The combination may actually deliver respect for the 'internal customer'. Suggestions for getting the most from millennials include advice such as "To staff your project with millennials don't clock watch". Several literature survey of 1960's and 1970's adult attitudes to teens and new hires shows much the same concerns as can be found in current 'complaints' about 'the younger generation'.

It is quiet likely that millennials really are more able to multi-task, are more goals oriented, positive and collaborative than those they will be reporting too. As significant if not more so is the shear number of baby boomers close to retirement and thus the skills drain across public and private enterprises.

Millennials bring knowledge of digital capabilities that Xers & boomers don't comprehend. Millennials have definitely been more digitally immersed having grown up entirely within a wall to wall 24x7 digital environment. 'Junior' ranks of the organisation with significant technical insight are often the source of projects seeking a sponsors. "Hey boss if we...we could...how about it?".

Our portfolio management processes need an input route from the tactical that is at least as accessible as the strategic and probably more responsive.

The Millennial will arrive with little project management knowledge. Maybe this means 'clean sheet' and so is a good thing given the current focus on an exam for individuals in schedule calculation rather than communications and collaboration across complex and messy connected (wicked) problems.

It isn't just the millennials who need decent project training but their experiences are likely to drive a demand for bite-size, integrated into the work environment, practical experiential coaching and mentoring

Key Points

Workforce demographics are obviously changing. The change's impacts are less obvious. For example the effect of the trends to move out of co-located physical spaces that bridge the experience profile from millennial to boomers and beyond in constant daily proximity. Recall that boundary spanners create capability and here are new boundaries.

Millennials arriving in the workforce are no different from previous generations in the need for induction into local processes. They may be different in their outlook, it just changes the contents of their induction activities.

Educate (yourself and the whole team, including) the Millennials in how to deliver projects. That is add the “why we cooperate and socially how we cooperate” to the technical tools and literacy in connectedness.

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