Welcome

Introduction to PM

https://ucc.instructure.com/enroll/HLY8LP

Introductions

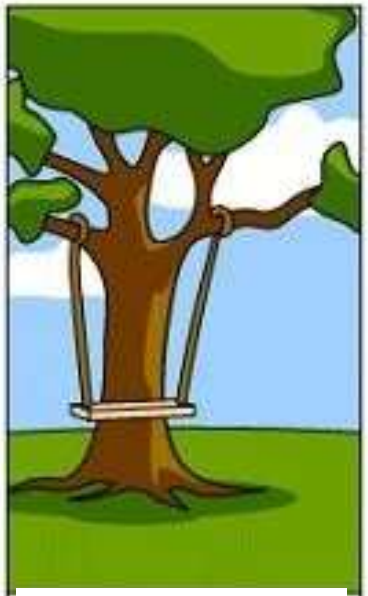
1. About me
2. About you
3. What experience do you have of PM
    1. Formal process
    2. Experiential
4. What is a “win” for you?
5. What are your PM Challenges?

Decide on a new project

Is there a project you have had in mind for some time?

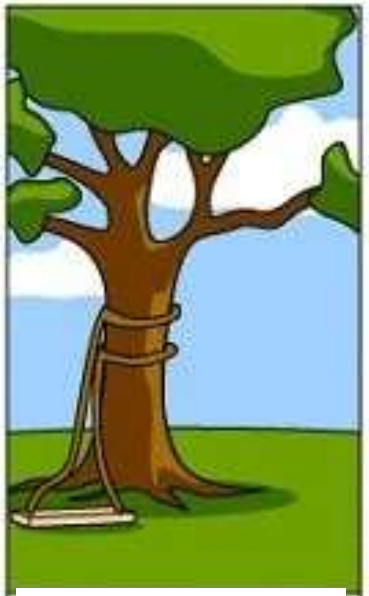
As we work thought the material, have this project in mind and we will use it to develop your PM capabilities

How the funder explained it



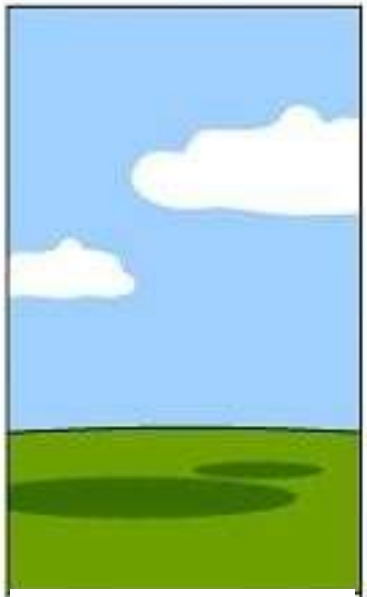
External partners understanding

Project team's understanding

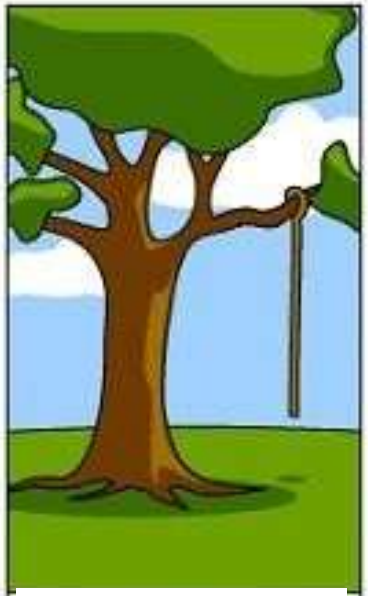


Admin Depts perception

How HoS/HoD described it

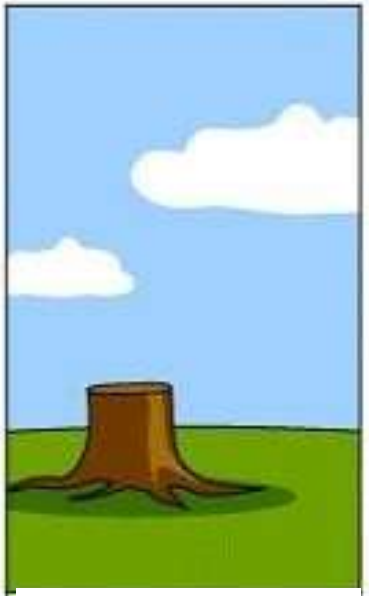


How it was documented



What was delivered

How College described it



Perception from other Schools

What the funder really needed

Why use PM at all?

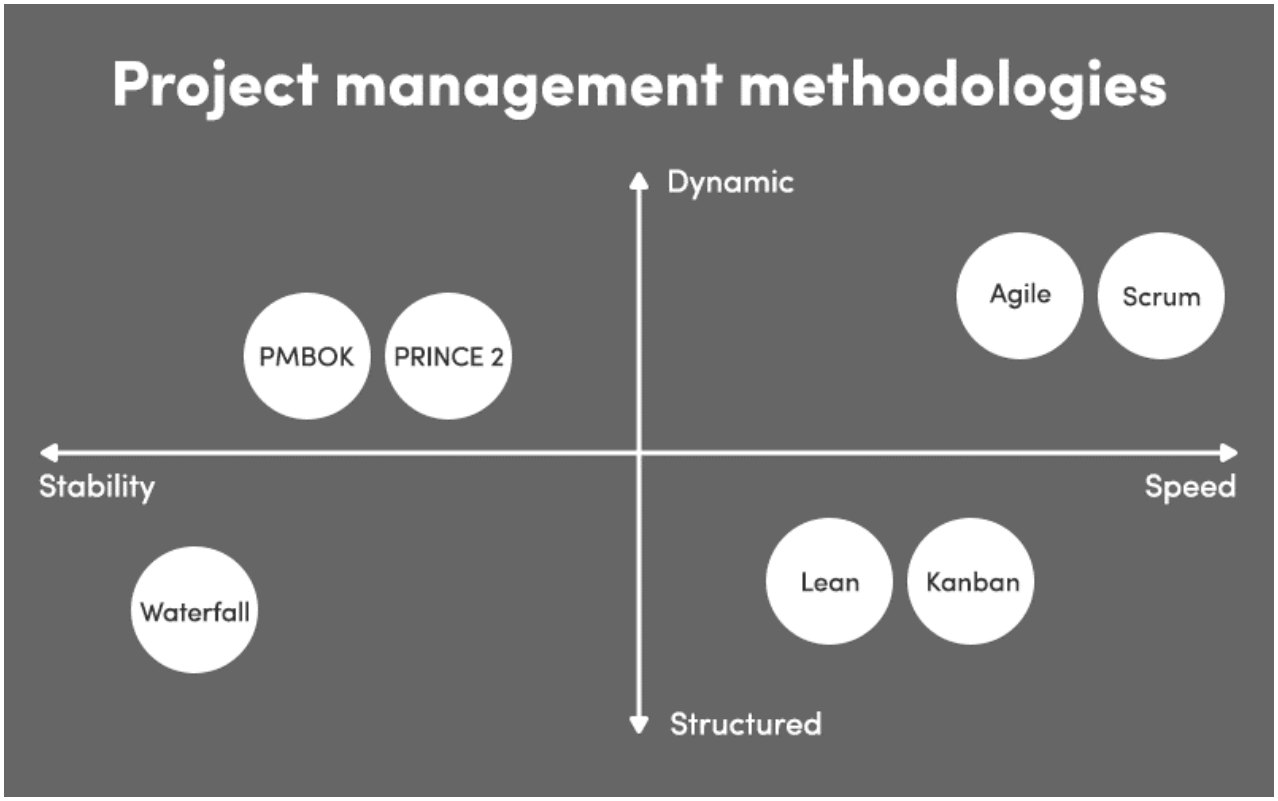
- Reduce risk, cuts costs, improves success rates
- Creates strategic value chain (competitive advantage)
- Measurable results (you can only manage what's measured, metrics and standardisation)
- Sponsorship means executive buy in and support
- Build a body of PM capabilities and expertise

https://www.pmi.org/-/media/pmi/documents/public/pdf/white-papers/value-of-project-management.pdf

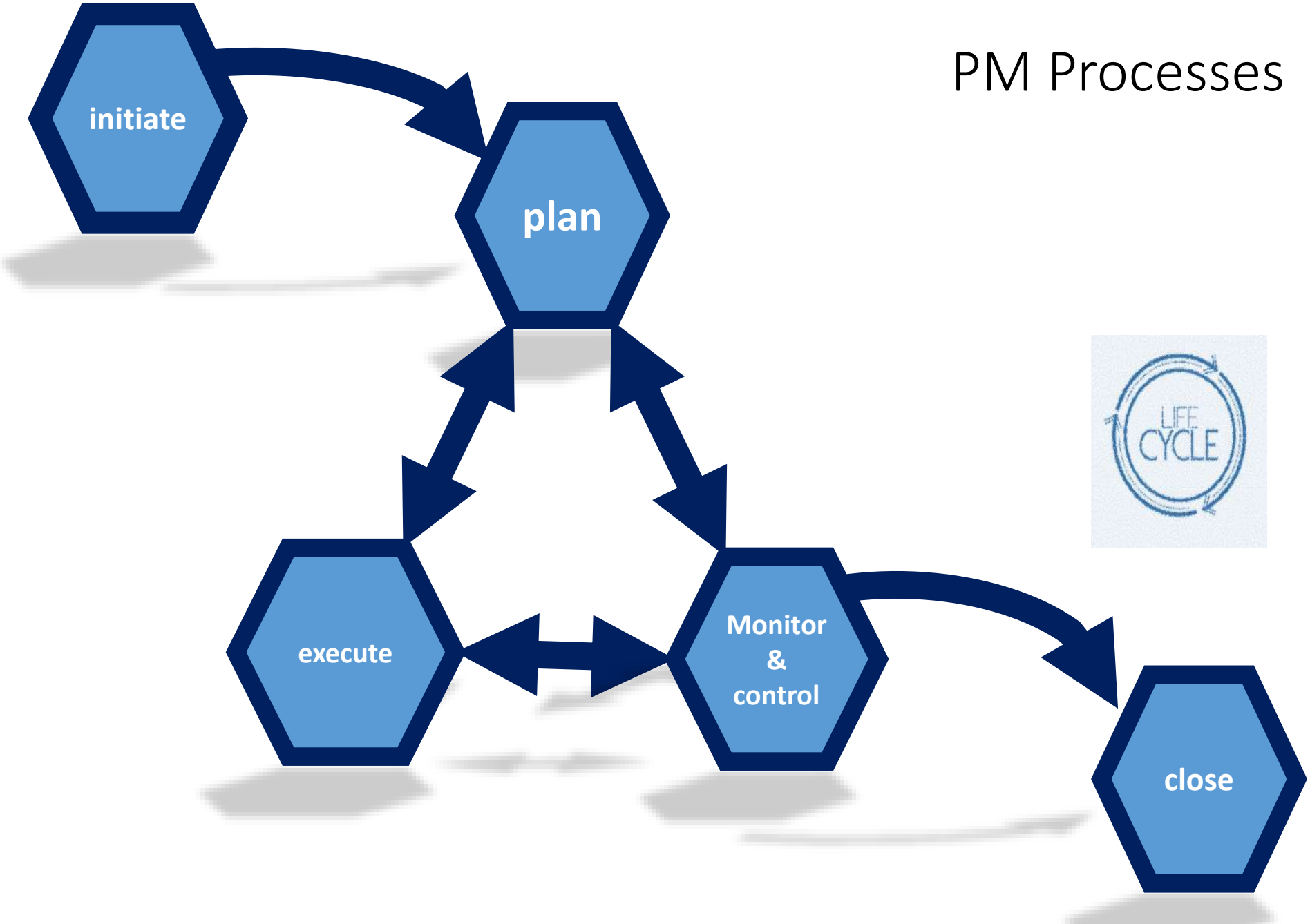
What is a project?

- A project is **temporary** in that it has a defined beginning and end in time, and therefore defined scope and resources.
- And a project is **unique** in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal.

- Cross functional
- Has inherent uncertainty
- Drives business value creation
- Drives change


Project management methodologies
Dynamic
Agile
Scrum
PMBOK
PRINCE 2
Stability
Speed
Waterfall
Lean
Kanban
Structured

PM Processes



PM Knowledge Areas

Core Knowledge areas

- Scope
- Schedule (time)
- Budget (Cost)
- Quality

Facilitation knowledge areas

- Procurement
- (Human) Resources
- Communications
- Risk management

Coordination knowledge areas

- Integration
- Stakeholder management

PMBOK® Flow

The unique aspect of PMP is that it defines carefully “how” to achieve Project outputs

How it works

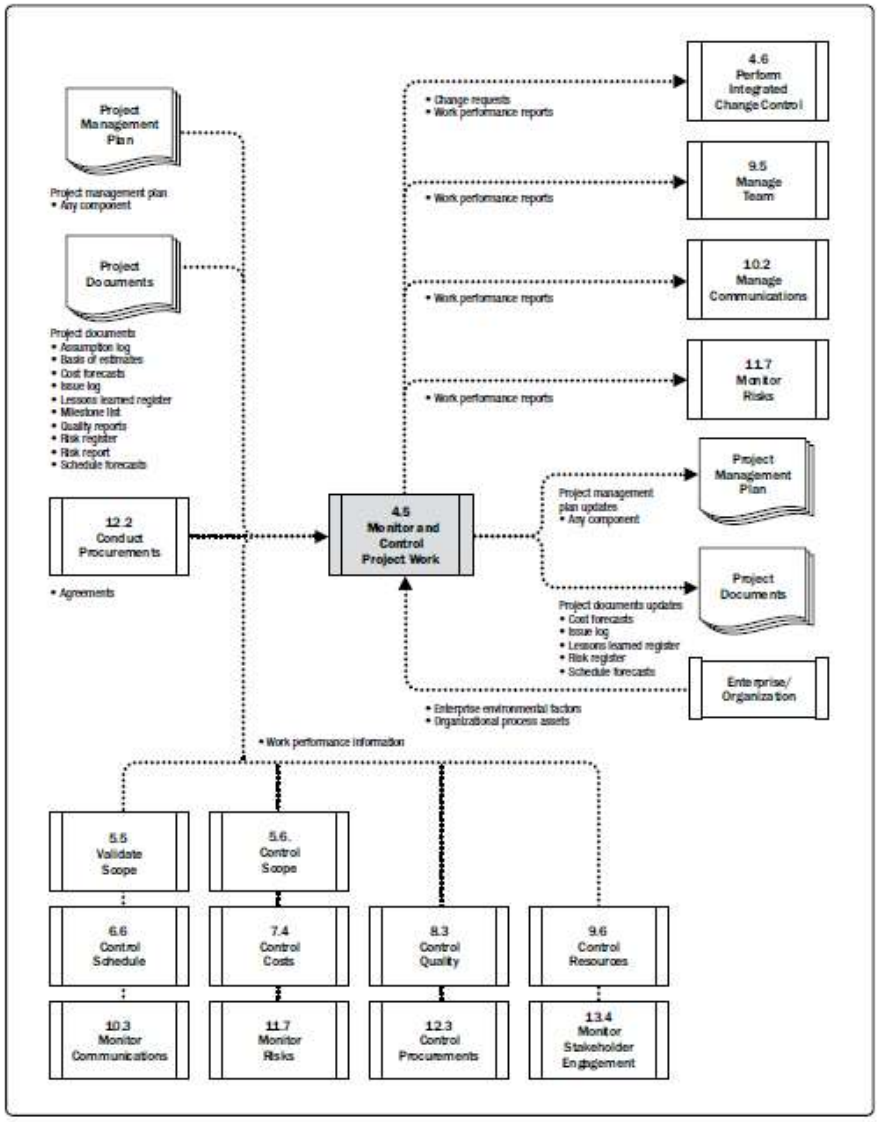


Figure 4-11. Monitor and Control Project Work: Data Flow Diagram

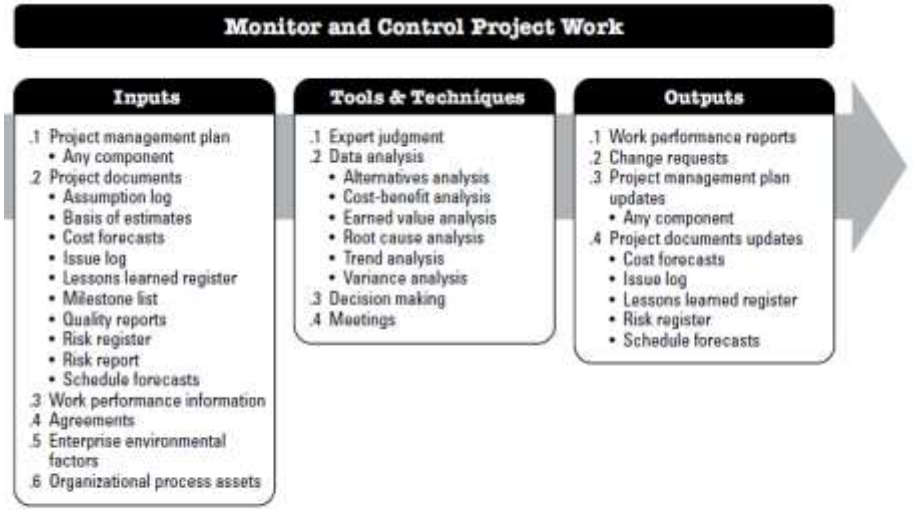


Figure 4-10. Monitor and Control Project Work: Inputs, Tools & Techniques, and Outputs

Project Initiation Phase

Why?

- Purpose is to make a decision – will we do this project?
- Need real information about timescales, costs, risks etc.
- Sales pitch to gain sponsorship
- The end of the initiation phase is when a decision is made to proceed

What information do we need?

- What is the justification (business case) for this project?
- What is the timescale? (and was it set arbitrarily?)
- What are the technical skills required? (and do we have them?)
- What are the expected deliverables?

- Two outputs
  - Project Charter
  - Stakeholder register

Creativity is hugely important at this stage!

PM has a lot of documentation

Determine Budget	Risk Register Activity Cost Estimates Project Schedule
Control Costs	Cost Estimates Basis of Estimates
Plan Quality Management	Stakeholder Register Responsibility Assignment Matrix WBS WBS Dictionary
Perform Quality Assurance	Quality Audit Reports Training Plans Process Documentation
Control Quality	Quality Standards Agreements Quality Audit Reports and Change Logs Training Plans Process Documentation
Manage Project Team	Issue Log Roles Description Project Staff Assignments
Plan Communications Management	Project Schedule Stakeholder Register

Manage Communications	Issue Log Project Schedule Project Funding Requirements
Control Communications	Forecasts Performance Reports Issue Log
Perform Qualitative Risk Analysis	Risk Register Assumptions Log
Perform Quantitative Risk Analysis	Risk Register
Plan Risk Responses	Risk Register Assumptions Log Technical Documentation Change Requests
Control Risks	Risk Register
Plan Procurement Management	Requirements Documentation Requirements Traceability Matrix Risk Register
Conduct Procurements	Requirements Documentation Requirements Traceability Matrix Risk Register Stakeholder Register

Process	Project documents may include, but are not limited to
Direct and Manage Project Work	Requirements Documentation Issue Log, Assumptions Log Risk Register Stakeholder Register
Monitor and Control Project Work	Schedule and Cost Forecasts Work Performance Reports (also given as an output explicitly!) Issue Log
Perform Integrated Change Control	"all documents specified as being subject to the project's formal change control process."
Define Scope	Stakeholder Register Requirements Documentation Requirements Traceability Matrix
Create WBS	Requirements Documentation
Validate Scope	"documents that define the product or report status on product completion"
Control Scope	Requirements Documentation Requirements Traceability Matrix

Sequence Activities	Activity Lists Activity Attributes Milestone List Risk Register
Estimate Activity Resources	Activity Lists Activity Attributes Resource Calendars
Estimate Activity Durations	Activity Attributes "Assumptions made in developing the activity duration estimate, such as skills levels and availability, as well as a basis of estimates for duration"
Develop Schedule	Activity Resource Requirements Activity Attributes Calendars Risk Register
Control Schedule	Schedule Data Project Schedule Risk Register
Estimate Costs	Risk Register

Initiating project

Project charter									
Project name	Date	Primary focus	Measurable targets						
				1	2	3	4	5	
Business case	Milestones	date							
	1. 2. 3. 4.			1	2	3	4	5	
	assumptions	constraints	Risk planning						
	Financial case	investment							

MILESTONE

We've initiated our project and made a decision that we are going to proceed!

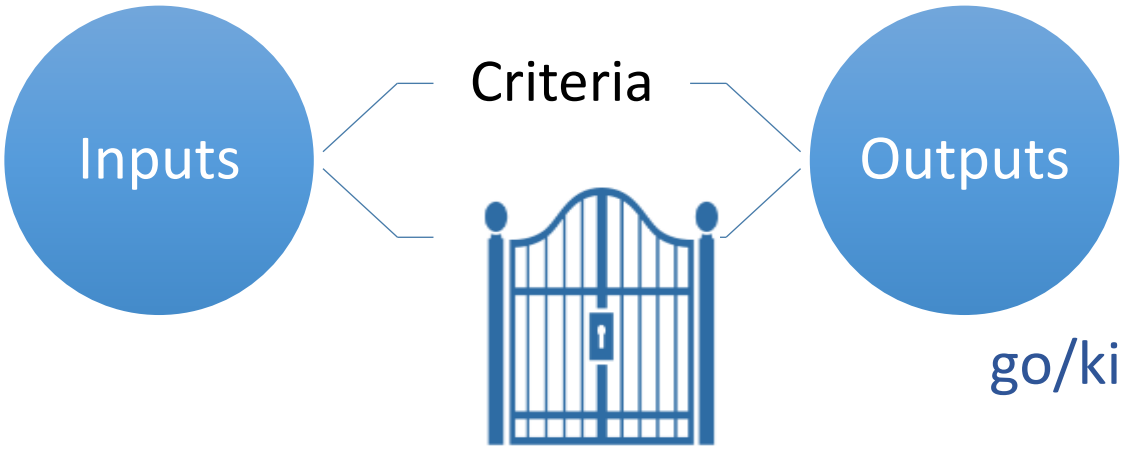
Milestones **are used to mark specific points along a** project timeline. They are anchors (e.g. start date), decision points (go/no go) or reporting points. They have no duration

Stage gates

A quick note on stage gates

Gates are decision points

1. Quality of execution: Checks whether the previous step is executed in a quality fashion.
2. Business rationale: Does the project continue to look like an attractive idea from an economic and business perspective.
3. Action plan: The proposed action plan and the requested resources reasonable and sound.



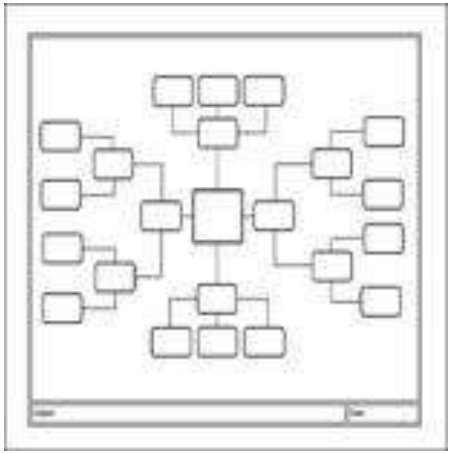
go/kill/hold/recycle

Stakeholders

- Anyone with any impact positive or negative on the project
- Use a mind map
- Aim for 3 levels

- Neglect Adverse and Sleeping Tigers (forgotten stakeholders) at your peril

- Analyse and Categorise stakeholders
- Produce a stakeholder register



Mendalow Matrix

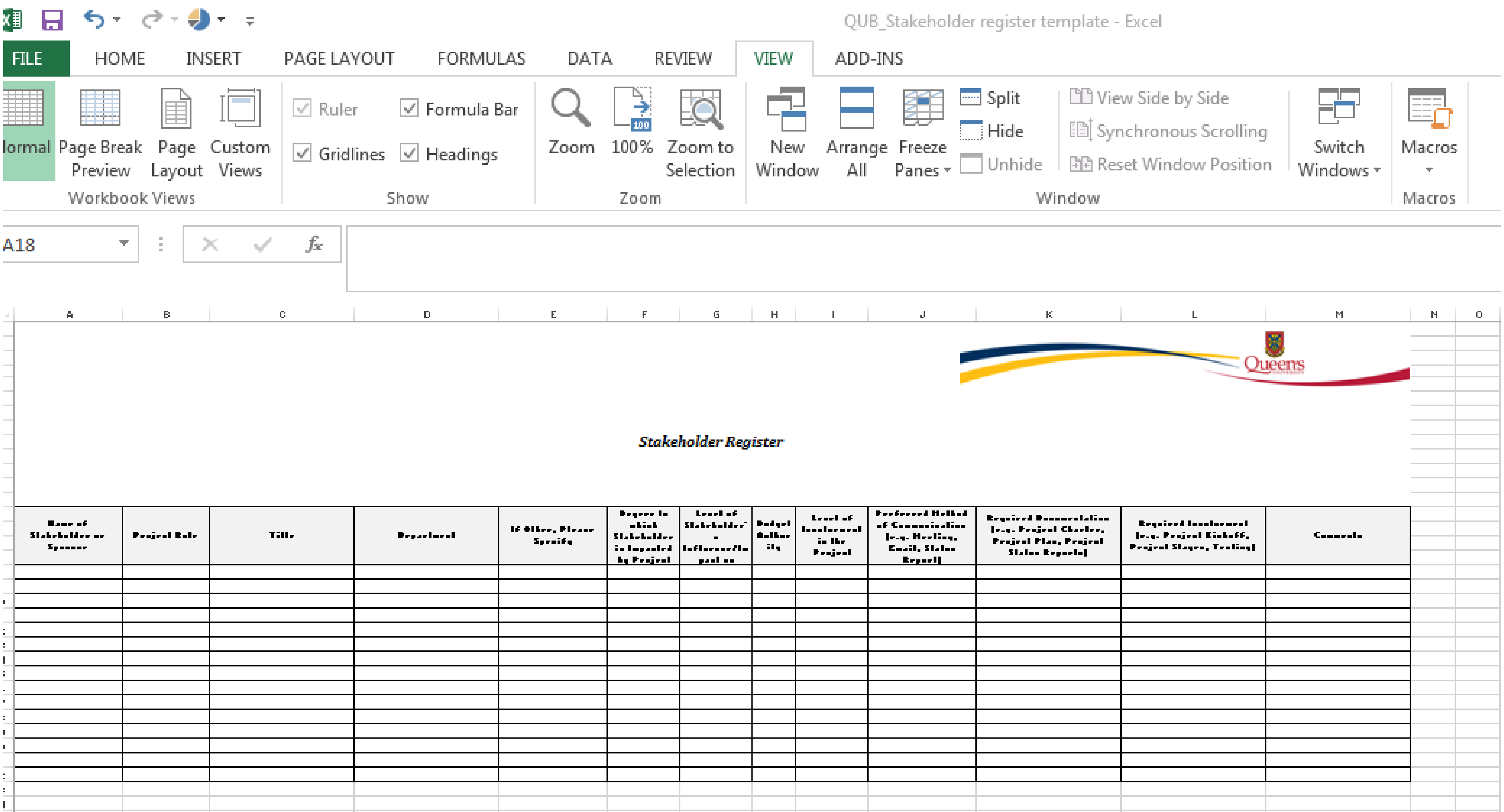
Stakeholder requirements

- Requires careful listening (and then more listening)
- Often stakeholders have fuzzy (or no) idea what they want
- Beware of unreasonable expectations – must manage carefully
- Find areas of convergence between different stakeholders and try to align areas of divergence
- <more on this when we talk about communication>

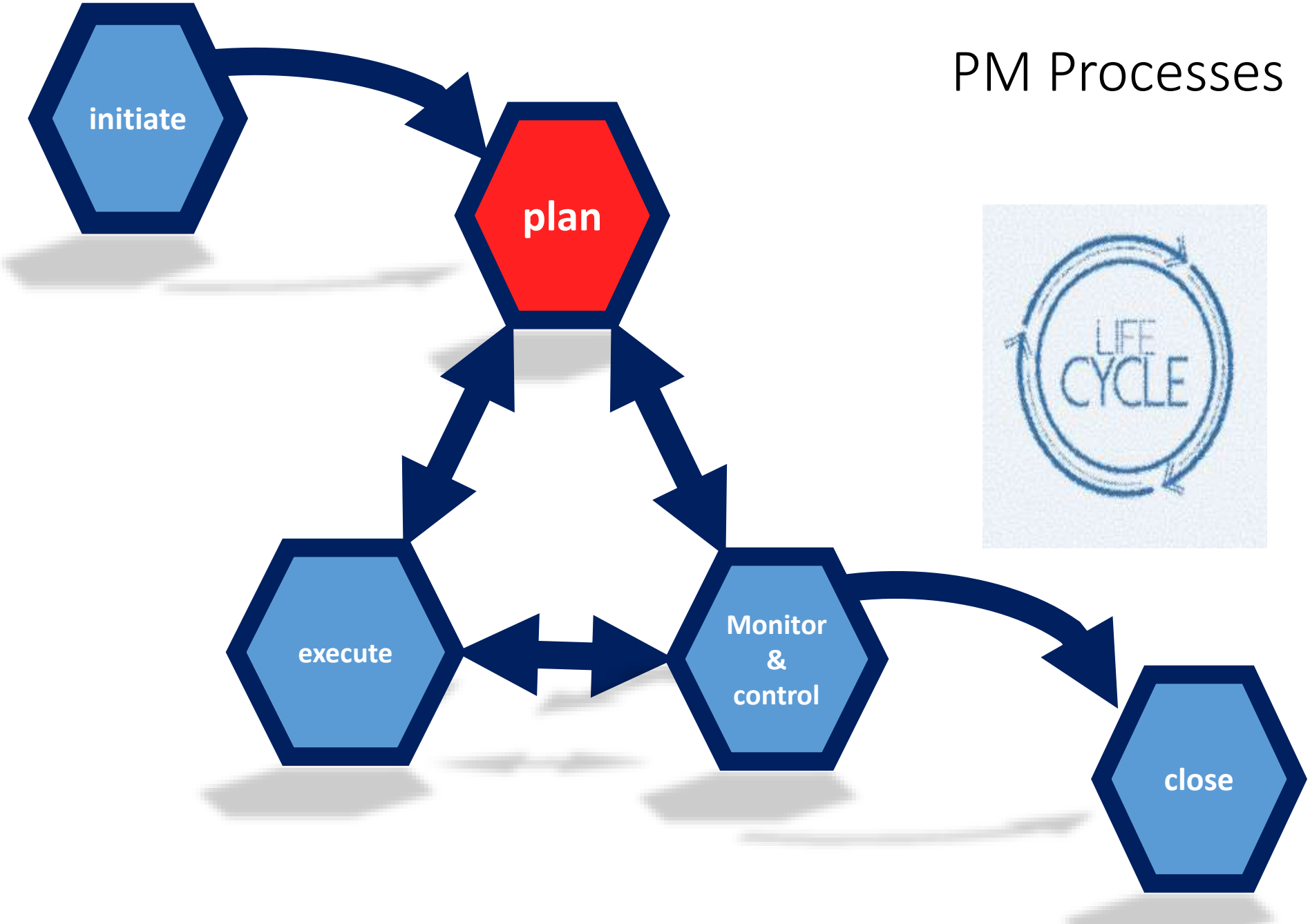
Definitions

- **Scope**: the sum of products and services to be provided as a project (i.e. what the project team are going to do and have a budget and time scale for)
- **Objectives**: the actual deliverables

Stakeholder register template

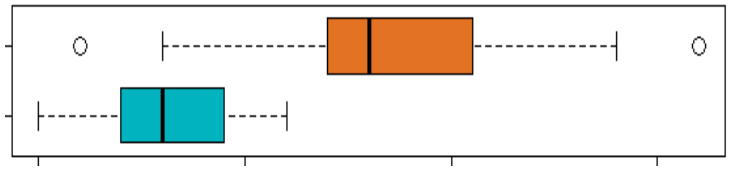


PM Processes



Planning and Design

- More formal and detailed planning processes
- Determines
  - work that needs to be done
  - Estimates duration, resources, costs and risks
  - Sequence the tasks
  - Creates project schedule (Gantt chart)
- Outputs: Project Plan (and subsidiary plans) WBS, Critical Path, Gantt Chart
- Iterative process
- Very complicated for all but trivial projects– tackle one thing at a time



Elements of a PM plan

- Executive Summary: A short description of the contents of the report
- Project Scope & Deliverables:

- Project Schedule
- Project Resources
- Project Quality Criteria
- Project team
- Stakeholders
- Procurement
- Risk and Issue Management Plan
- Communication Management Plan
- Integration Management

- Basically, a project plan should tell stakeholders what needs to get done, how it will get done, and when it will get done

Project Management Plan

The plan is the master document that directs the project

Consists of a number of subsidiary plans that detail specific pm areas

Most contain specifics (contrast charter)

TABLE OF CONTENTS

Scope statement
(project statement of work)

- What **IS** covered by the project scope

Then

- What **IS NOT** covered by the project scope

Important as it helps root out unreasonable expectations

Should include JUST ENOUGH data (i.e. must be readable)

Typical Scope statement

- objectives
- **project scope**
- product scope
- requirements
- boundaries
- **deliverables**
- acceptance criteria
- **constraints**
- **assumptions**
- milestones
- cost estimation
- specifications
- configuration management requirements
- approval requirements
- etc.

Scope Statement

Project Name		Date	
Project Number		Project Manager	

Business Need / Project Objectives

Project Description and How it Meets the Business Need

Project Benefits
1.
2.
3.

Scope creep

Definition

"**Scope creep:** Adding additional features or functions of a new product, requirements, or work that is not authorized (i.e., beyond the agreed-upon scope)."

Larson, R. & Larson, E. (2009). Top five causes of scope creep ... and what to do about them. Paper presented at PMI® Global Congress 2009—North America, Orlando, FL. Newtown Square, PA: Project Management Institute.

The constraint triangle
= The triple constraint
= The PM’ers triangle = Iron triangle

Alternatively….

Is the triangle actually a diamond?

Or even an extended model

Communication in PM

Developing your Communication Management Plan (PMP)

Need expertise in…
- Communication basics
- Active listening
- Feedback
- Difficult conversations
- Planning
- External engagement

Communication Management Plan Main Contents 1/2

- Stakeholder communication requirements
- Information to be communicated
- Reason for distributing the information
- Time frame and frequency
- Responsible person/party to prepare and/or communicate
- Responsible person/party for authorizing release of confidential information

Communication Management Plan Main Contents 2/2

- Persons who will receive the information (distribute to)
- Communication method, type and technology
- Allocated resources to perform communication, time and budget
- Escalation process
- Updating & refining the communications management plan
- Glossary of common terminology
- Project information flowcharts
- Communication constraints

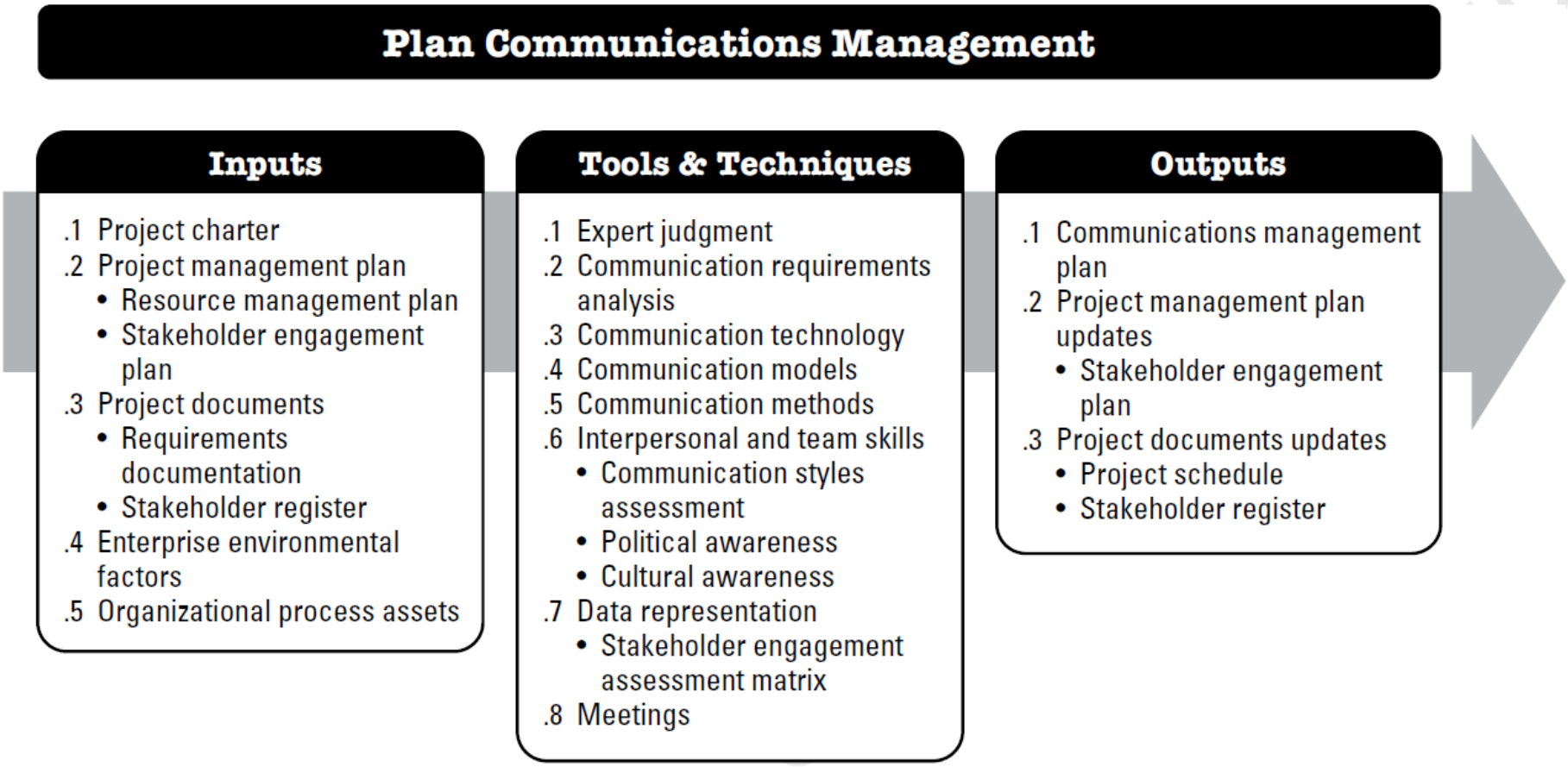


Figure 10-2. Plan Communications Management: Inputs, Tools & Techniques, and Outputs

COMMUNICATIONS MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Message	Audience	Method	Frequency	Sender

Term or Acronym	Definition

Communication Constraints or Assumptions:

Attach relevant communication diagrams or flowcharts.

Estimating


MILK CHOCOLATE
m&m's
CHOCOLATE CANDIES
Energy
190
엠앤엠즈™ 밀크 (탈지분유 7%함유) 100g (475kcal)
NET WT/NETTO 100g น้ำหนักสุทธิ (กรัม)

Methods to estimate resource needs

- **Expert judgment**
  - Interpolation
  - Extrapolation
  - Related projects
  - 3 point estimating (beta pert estimate)
- **Alternative analysis**
- **Published estimating data**
- **Project management software** (Microsoft Project).
- **Bottom-up estimating**

- How do we estimate resources in academic research?

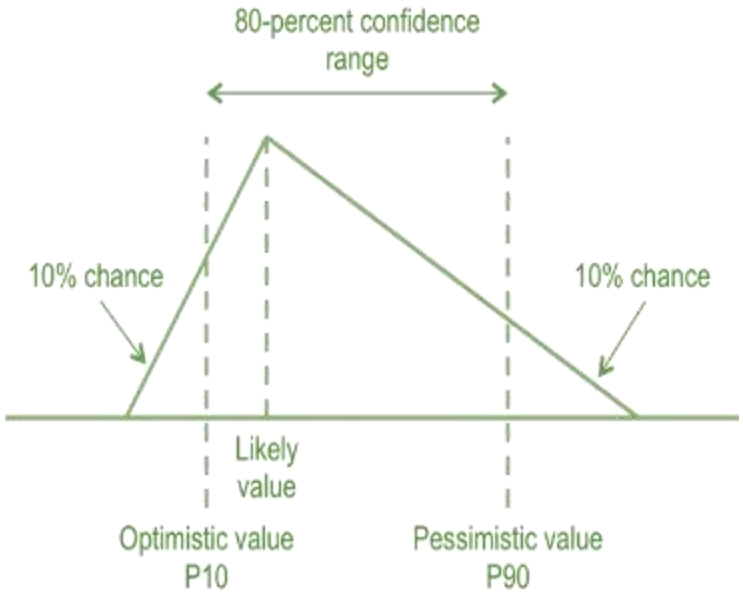
Project Estimating

1

2

3

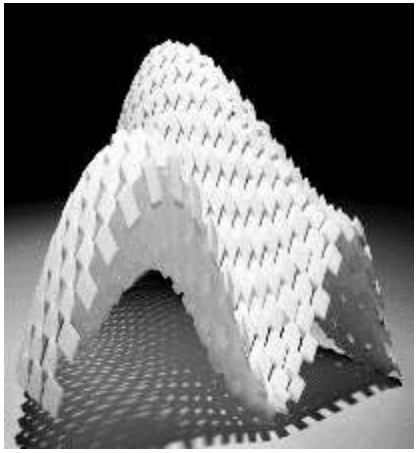
$$E = \frac{a + 4m + b}{6}$$



$$SD = \frac{b-a}{6}$$

Other estimating ideas

- Assume 80% productivity
- Bottom up – start at detailed task level and sum all times, accurate but time consuming
- Top down – start with an overall timeline using experience as guide
- Parametric estimates



Be aware of bias

- Plassmann (neuroscientist)
  - Subject evaluations

    But also

    Brain imaging

- Shiv (Behavioural Economist)
  - Energy Drink

    Subjective evaluations

    But also mental acuity performance

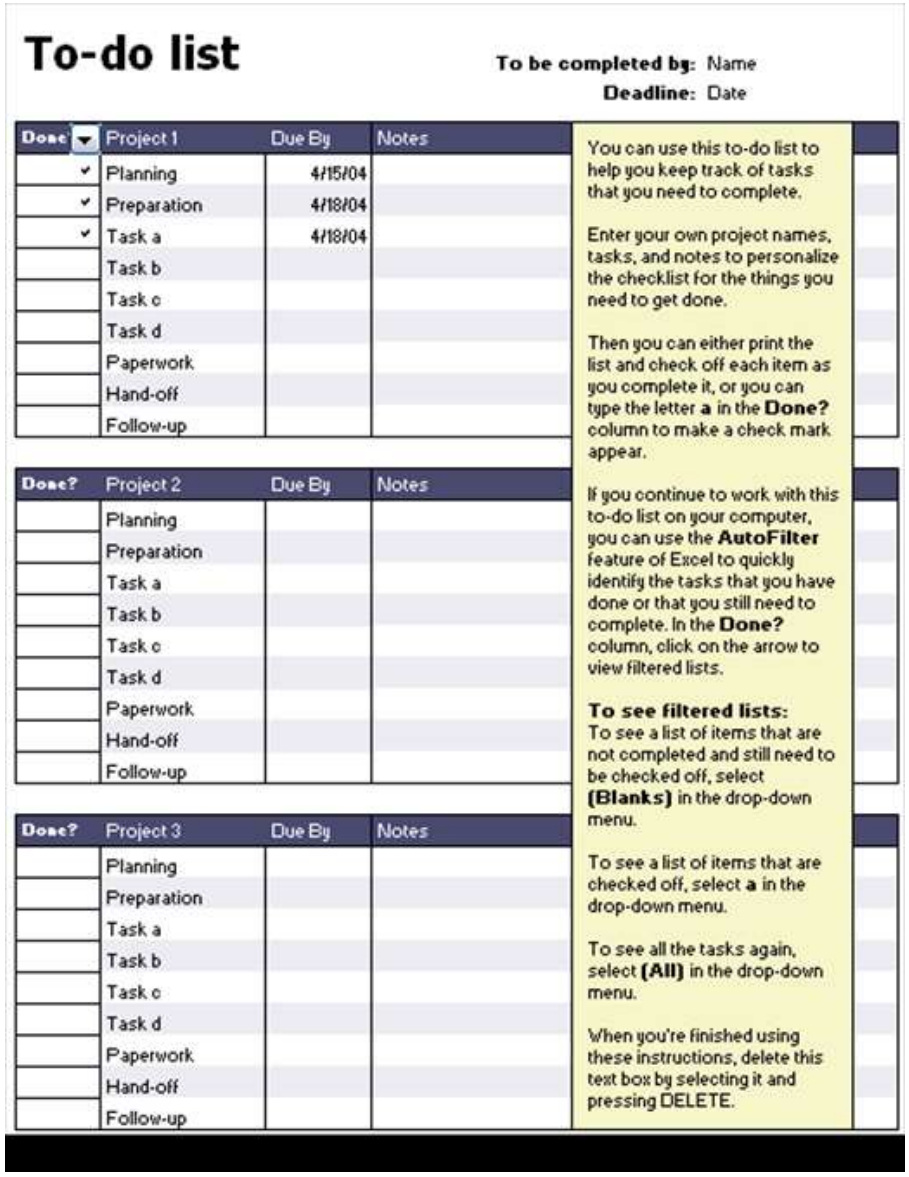
Why schedule projects?

- They provide a basis for you to monitor and control project activities.
- They help you determine how best to allocate resources so you can achieve the project goal.
- They help you assess how time delays will impact the project.
- You can figure out where excess resources are available to allocate to other projects.
- They provide a basis to help you

  track project progress.

Purpose of schedules

- Provide a basis for you to monitor and control project activities.
- Determine how best to allocate resources so you can achieve the project goal.
- Assess how time delays will impact the project.
- Figure out where excess resources are available to allocate to other projects.
- Provide a basis to help you track project progress.



To-do list

To be completed by: Name
Deadline: Date

Done?	Project 1	Due By	Notes
✓	Planning	4/15/04	
✓	Preparation	4/18/04	
✓	Task a	4/18/04	
	Task b		
	Task c		
	Task d		
	Paperwork		
	Hand-off		
	Follow-up		

Done?	Project 2	Due By	Notes
	Planning		
	Preparation		
	Task a		
	Task b		
	Task c		
	Task d		
	Paperwork		
	Hand-off		
	Follow-up		

Done?	Project 3	Due By	Notes
	Planning		
	Preparation		
	Task a		
	Task b		
	Task c		
	Task d		
	Paperwork		
	Hand-off		
	Follow-up		

You can use this to-do list to help you keep track of tasks that you need to complete.

Enter your own project names, tasks, and notes to personalize the checklist for the things you need to get done.

Then you can either print the list and check off each item as you complete it, or you can type the letter **a** in the **Done?** column to make a check mark appear.

If you continue to work with this to-do list on your computer, you can use the **AutoFilter** feature of Excel to quickly identify the tasks that you have done or that you still need to complete. In the **Done?** column, click on the arrow to view filtered lists.

To see filtered lists:
To see a list of items that are not completed and still need to be checked off, select **(Blanks)** in the drop-down menu.

To see a list of items that are checked off, select **a** in the drop-down menu.

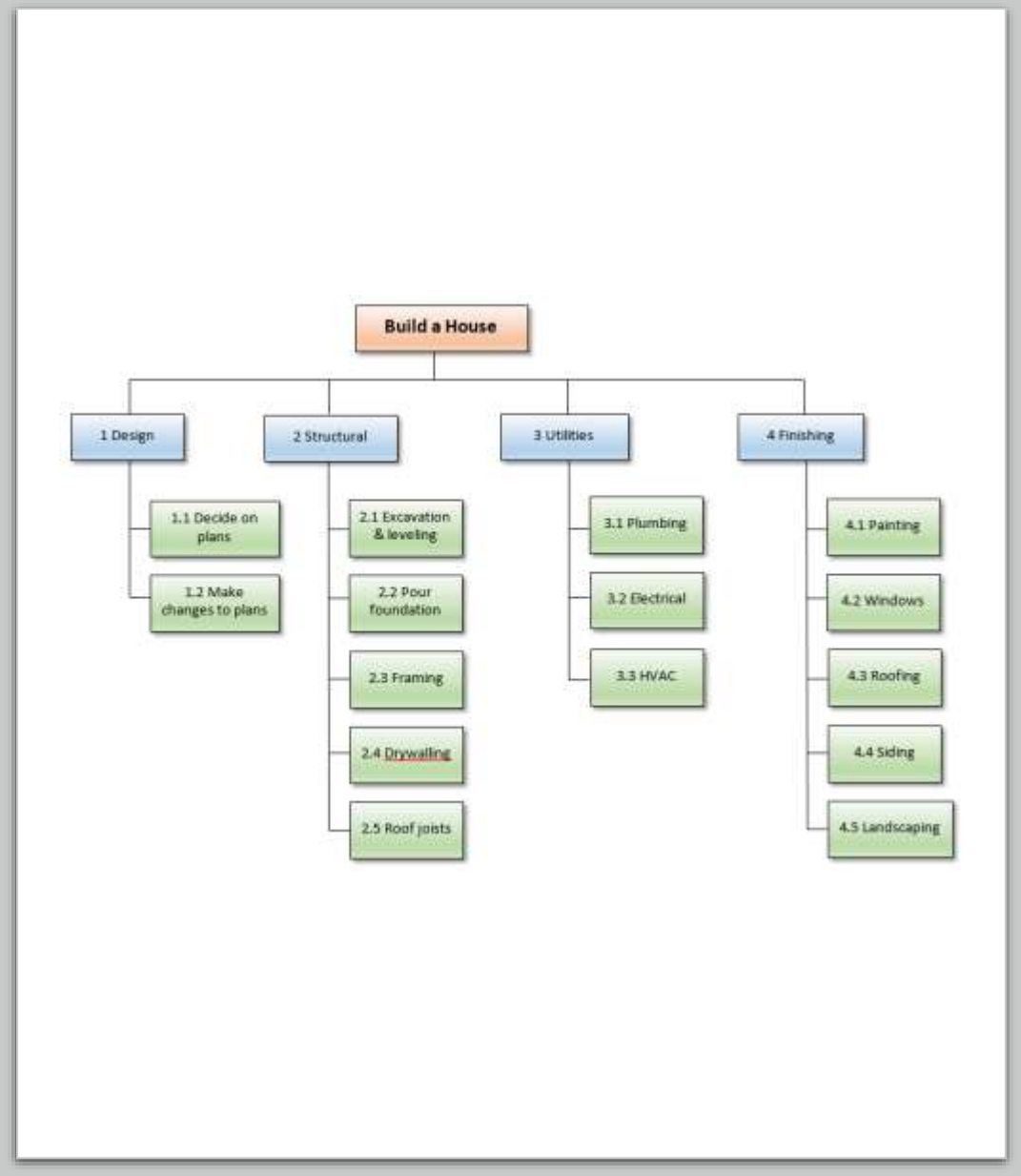
To see all the tasks again, select **(All)** in the drop-down menu.

When you're finished using these instructions, delete this text box by selecting it and pressing DELETE.

1. Organise your project (write business case, clarify goals and objectives, conduct stakeholder analysis)
2. Write out your task list
3. **Organise your task list**
4. Review this list
5. Communicate the list with relevant stakeholder

Work Breakdown Structures

- Systematically breaks the project down into smaller and smaller steps until all the work units (tasks) have been identified
- Start with Phases/Work Packages/subject areas
- Break each phase into handful of activities needed to deliver it
- Break activities into tasks (a task answers how much, how long, what resources, what risk – once you can answer these you have the “take away task” and don’t need to break down further.



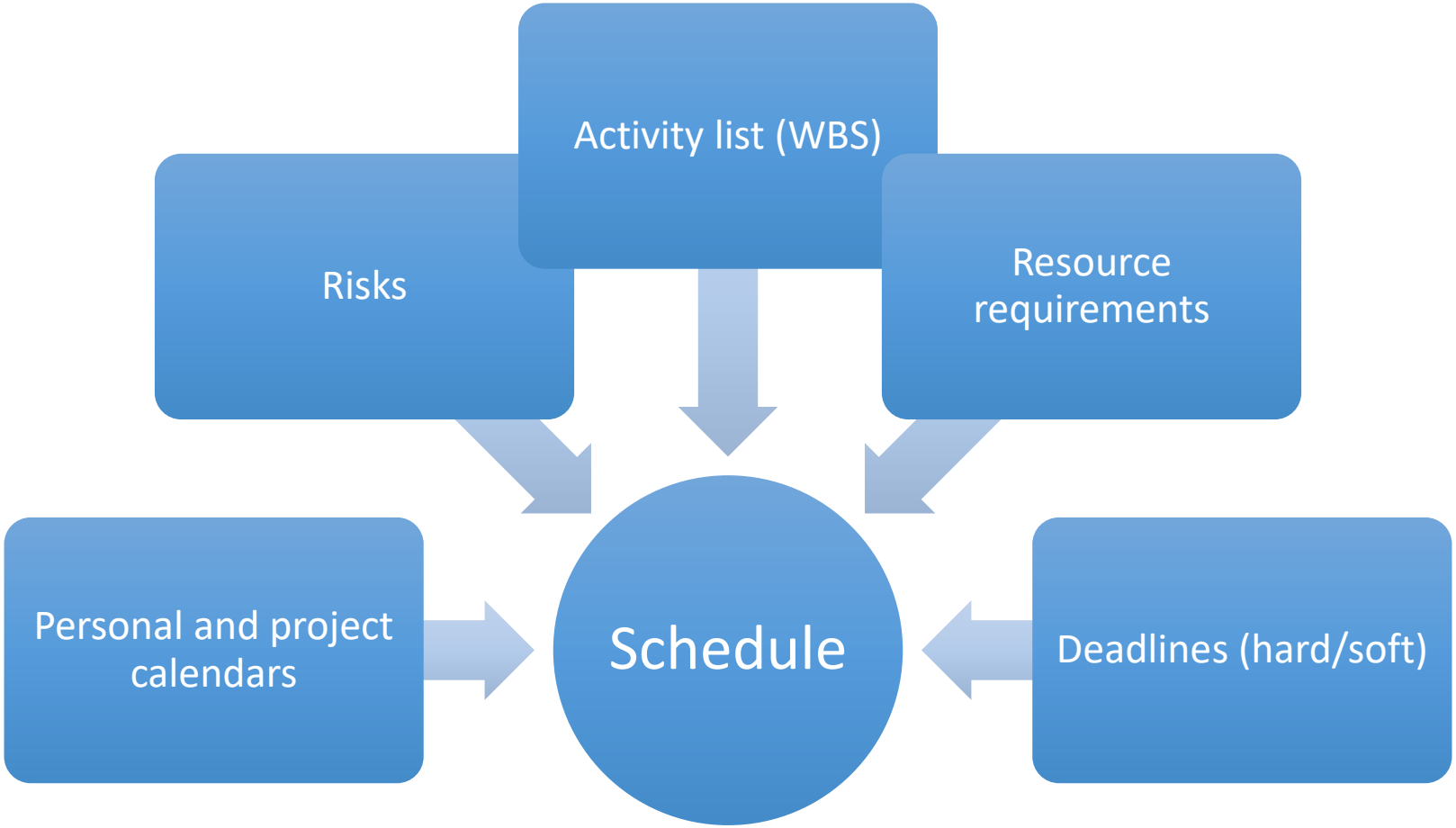
Rules for WBS

- **Hierarchy:** The WBS is hierarchical in nature. Each “child” level exists in a strict hierarchical relationship with the parent level. The sum of all the child elements should give you the parent element.
- **100% rule:** Every level of decomposition must make up 100% of the parent level. It should also have at least two child elements.
- **Mutually exclusive:** All elements at a particular level in a WBS must be mutually exclusive. There must be no overlap in either their deliverables or their work. This is meant to reduce miscommunication and duplicate work.
- **Outcome-focused:** The WBS must focus on the result of work, i.e. deliverables, rather than the activities necessary to get there. Every element should be described via nouns, not verbs. This is a big source of confusion for beginners to WBS

WBS – how to

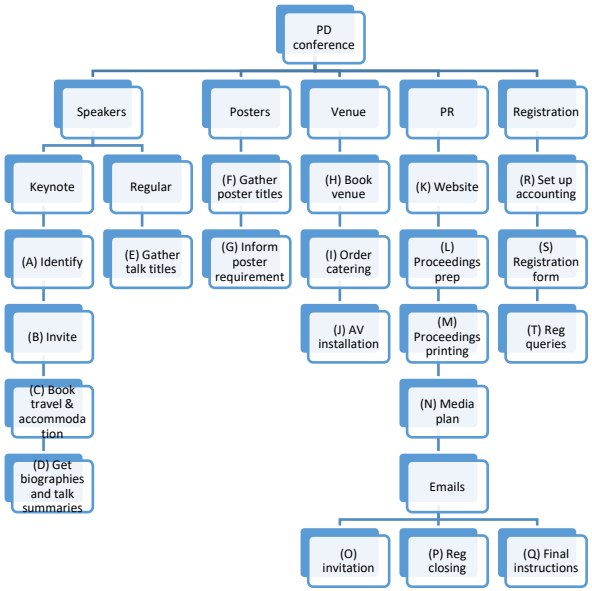
1. Choose approach (process, achievement, function or blend)
2. Choose a numbering system
3. Break down the project until you have tasks (recommended 3-4 levels, < 10 elements per level <80 hours task)
4. Once you can answer how much, how long, what resources, what risk you're at task level
5. Beware exhaustion – easy to miss something
6. Be careful of unknowns (common in top down approach)
7. It can be useful to start with a mind-map

Schedule inputs – project management style




Plan Schedule Management
Inputs
1. Project charter
2. Project management plan
• Scope management plan
• Development approach
3. Enterprise environmental factors
4. Organizational process assets
Tools & Techniques
1. Expert judgment
2. Data analysis
3. Meetings
Outputs
1. Schedule management plan

Task list (taken from WBS)

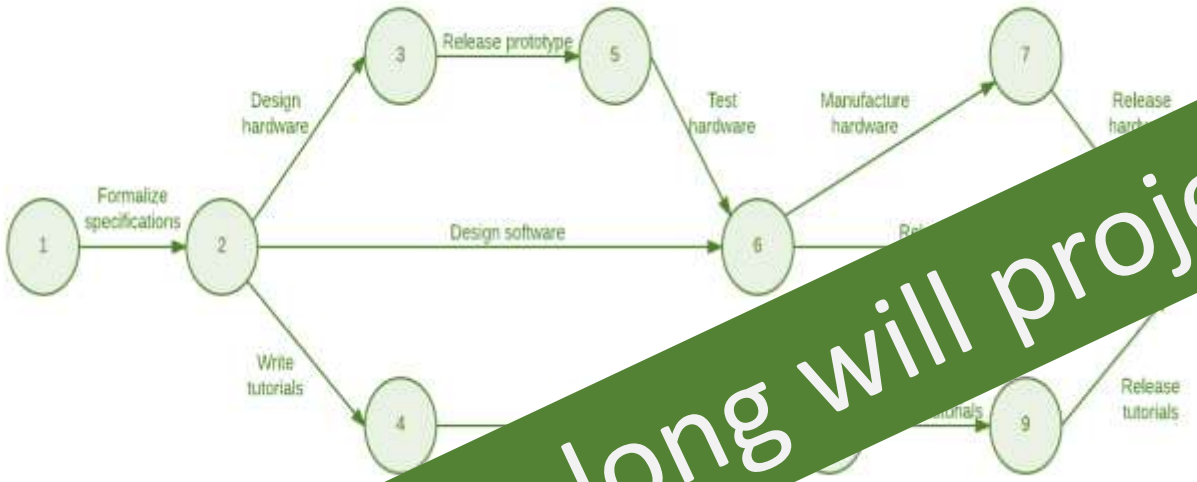


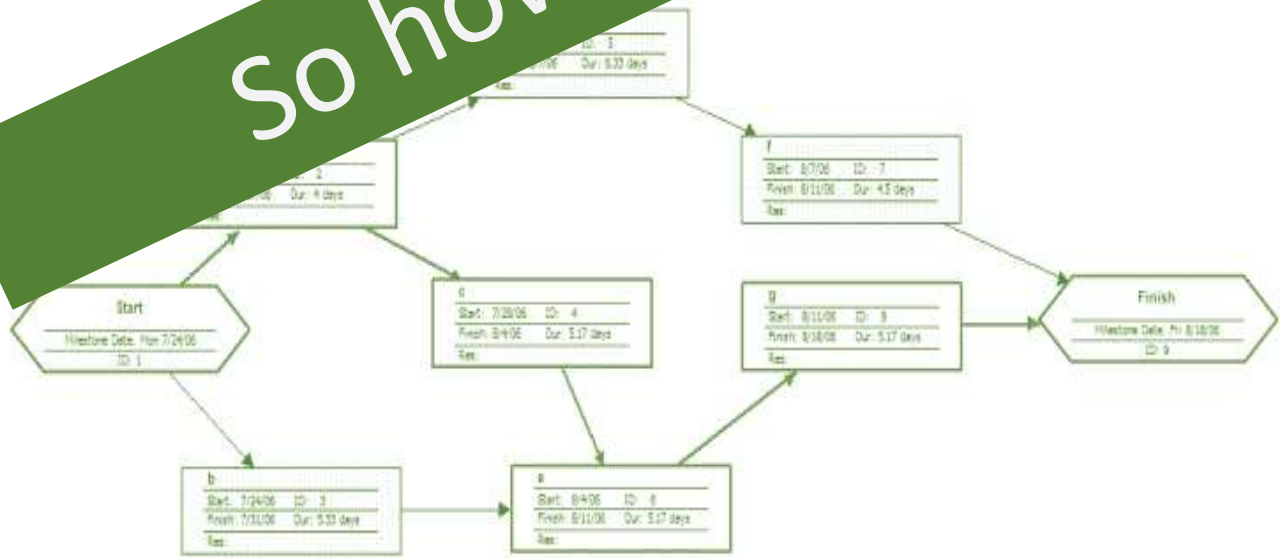
Task list	Column1	Column12	Column2	Column22	Column3
Task identifier	task description	earliest start	duration	type	prerequesites
A	example task	minute 0	10 minutes	parallel/sequential	C,D and E
b					
c					
d					

PERT (Network Diagrams)

- We have list of tasks
- We have estimates for how long each task takes
- But how are tasks related?
- Can some tasks be done in parallel (non-dependent) or are they all serial (dependent)
- PERT (Programme Evaluation and Review Technique) is a graphical representation of a project schedule
- Schedule shown as a network with nodes (tasks/milestones) and vectors (sequence) and often metadata (using colour)

Task name	
best	expecte





So how long will project take?

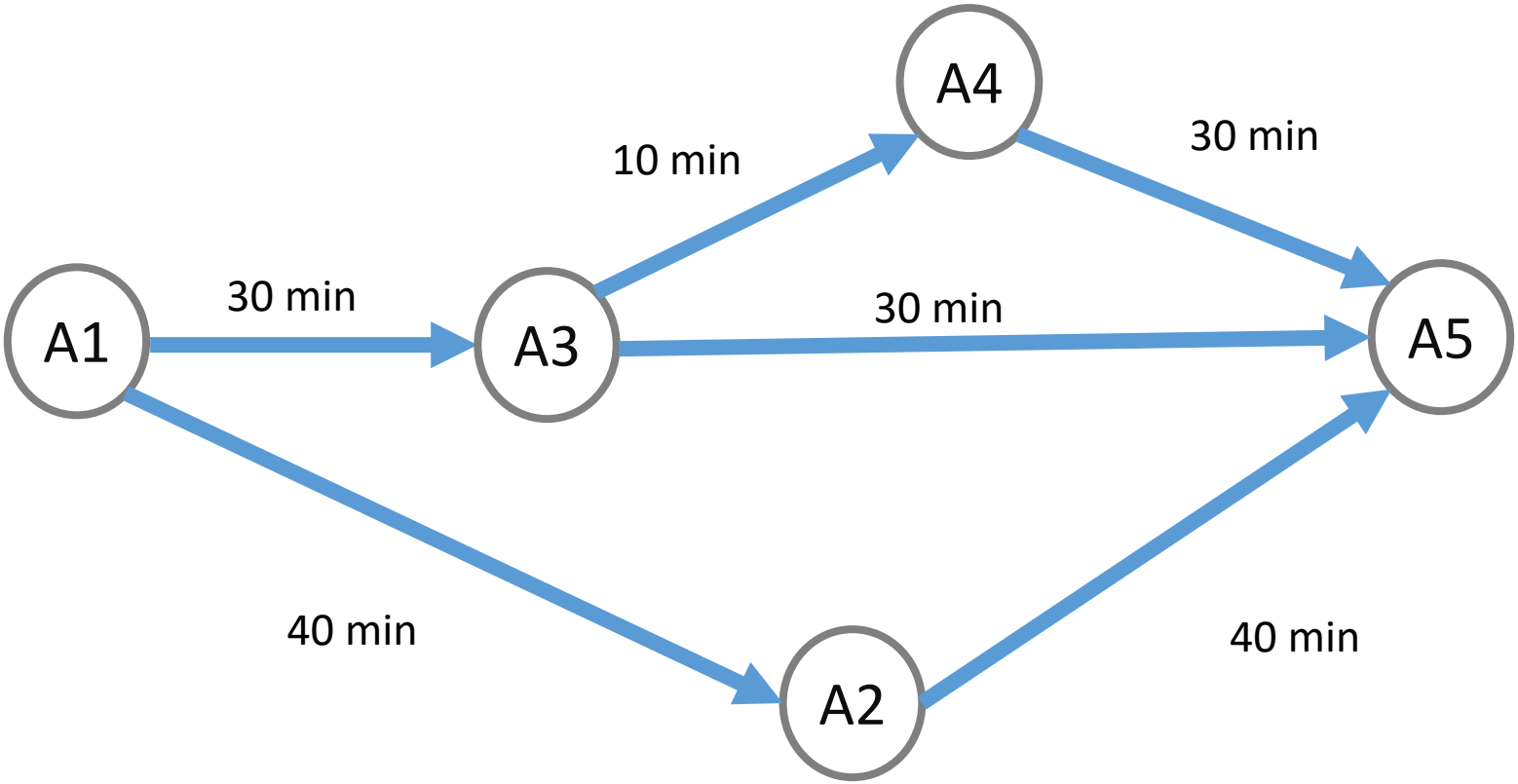
milestones

junctions

Each task must be linked to start and finish

PERT

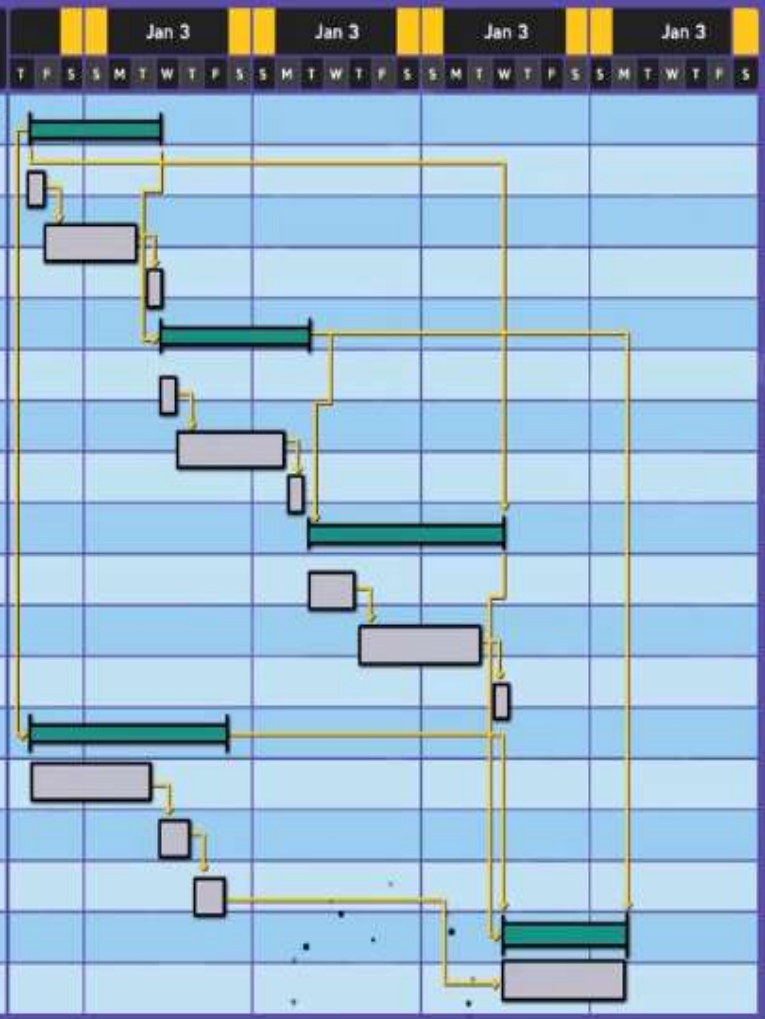
path	time
1-3-4-5	70
1-3-5	60
1-2-5	**80**



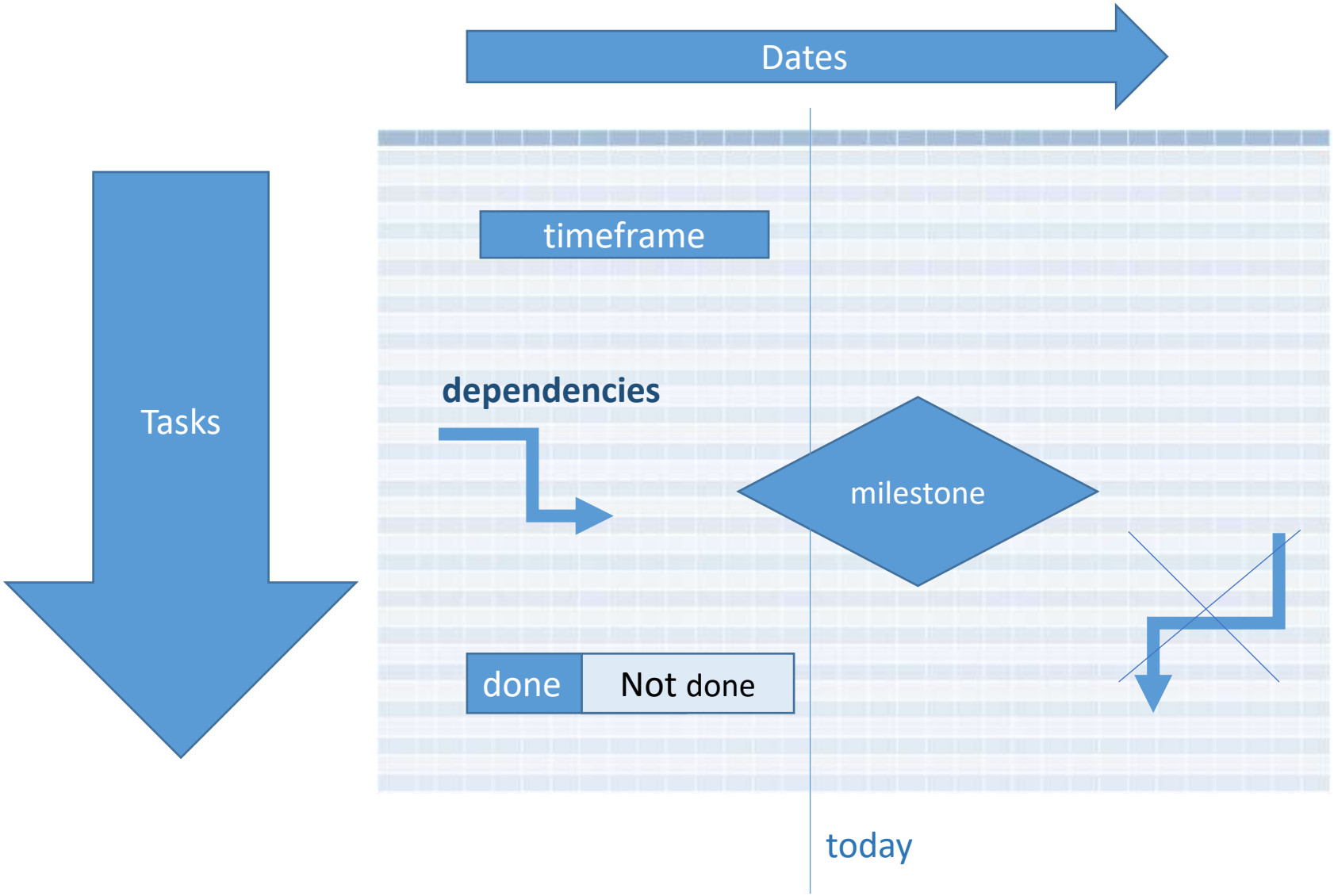
Gantt Chart

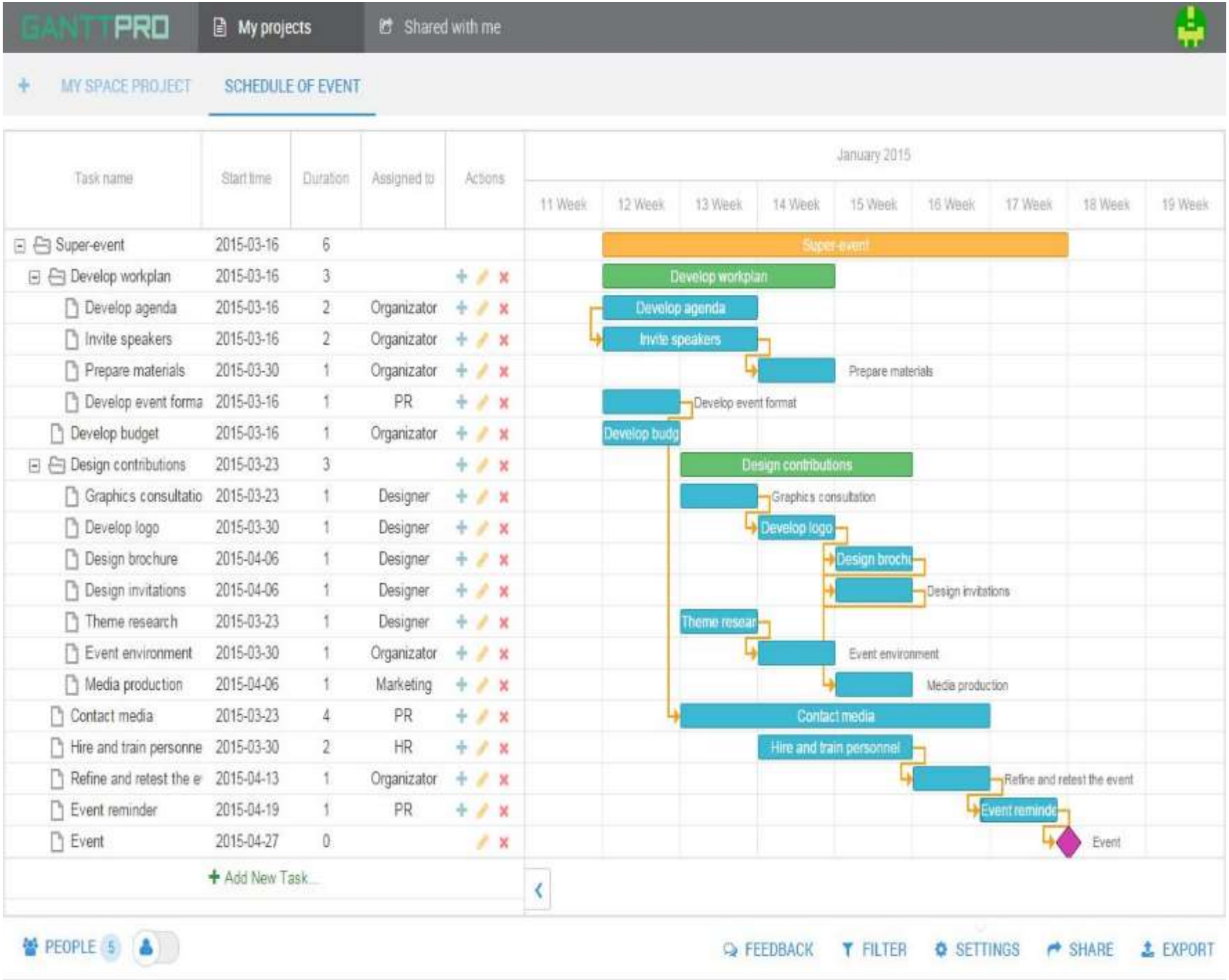
- A graphic for scheduling, and controlling work
- Differs from a network diagram as you can see what's happening at any give time (past, present, future)
- Very useful for resource planning
- Can be used for tracking progress
- Many software packages available e.g. MSOffice

	Notes	Task Name	Duration	Start	Resources
1		**- Choose conference venue**	**3.33 days**	**Fri 1/1**	**Telephone, Internet, Meeting**
2		Assess conference needs	0.33 days	Fri 1/1	Jenny, Tina
3		Get three different quotes	2 days	Fri 1/1	Tina
4		Make booking	1 days	Tue 1/5	Tina
5		**- Print location maps**	**4 days**	**Wed 1/6**	**Telephone, Internet, Car**
6		Decide on requirements	1 days	Wed 1/6	Tom, Jenny
7		Get two quotes	2 days	Thu 1/7	Tom
8		Commission printers	1 days	Mon 1/11	Tom
9		**- Investigate travel arrangements**	**6 days**	**Tue 1/12**	**Telephone, Internet**
10		Assess needs of speakers	2 days	Tue 1/12	Sarah
11		Get three quotes	3 days	Thu 1/14	Sarah
12		Make bookings	1 days	Tue 1/19	Sarah
13		**- Commission speakers**	**6 days**	**Fri 1/1**	**Telephone**
14		Research qualifications	4 days	Fri 1/1	Jeff
15		Send invites	1 days	Thu 1/7	Jeff
16		Confirm attendance	1 days	Fri 1/8	Jeff,
17		**- Create conference program**	**3 days**	**Wed 1/20**	**Computer, Software**
18		Draw up program	3 days	Wed 1/20	Jenny



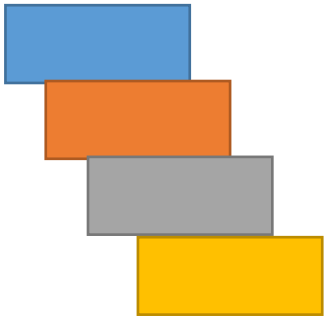
What does a Gantt chart look like?




GANTTPRO
My projects
Shared with me
MY SPACE PROJECT
SCHEDULE OF EVENT
Task name
Start time
Duration
Assigned to
Actions
January 2015
11 Week
12 Week
13 Week
14 Week
15 Week
16 Week
17 Week
18 Week
19 Week
Super-event 2015-03-16 6
Develop workplan 2015-03-16 3
Develop agenda 2015-03-16 2 Organizator
Invite speakers 2015-03-16 2 Organizator
Prepare materials 2015-03-30 1 Organizator
Develop event forma 2015-03-16 1 PR
Develop budget 2015-03-16 1 Organizator
Design contributions 2015-03-23 3
Graphics consultatio 2015-03-23 1 Designer
Develop logo 2015-03-30 1 Designer
Design brochure 2015-04-06 1 Designer
Design invitations 2015-04-06 1 Designer
Theme research 2015-03-23 1 Designer
Event environment 2015-03-30 1 Organizator
Media production 2015-04-06 1 Marketing
Contact media 2015-03-23 4 PR
Hire and train personne 2015-03-30 2 HR
Refine and retest the e 2015-04-13 1 Organizator
Event reminder 2015-04-19 1 PR
Event 2015-04-27 0
Develop event format
Design invitations
Event environment
Media production
Refine and retest the event
Event
Add New Task...
PEOPLE 5
FEEDBACK
FILTER
SETTINGS
SHARE
EXPORT

Compression

- Schedule compression can be achieved through
- Fast tracking (parallel)



Time ↓
Cost –
Risk ↑

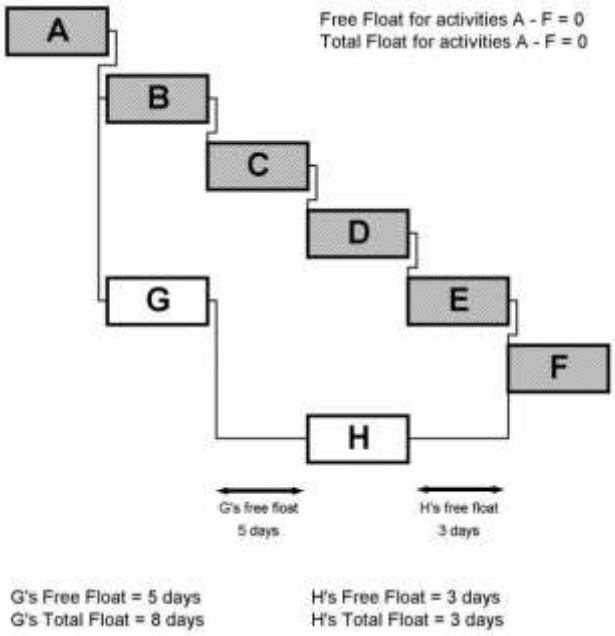
- Crashing (extra resources)

Time ↓
Cost ↑
Risk -

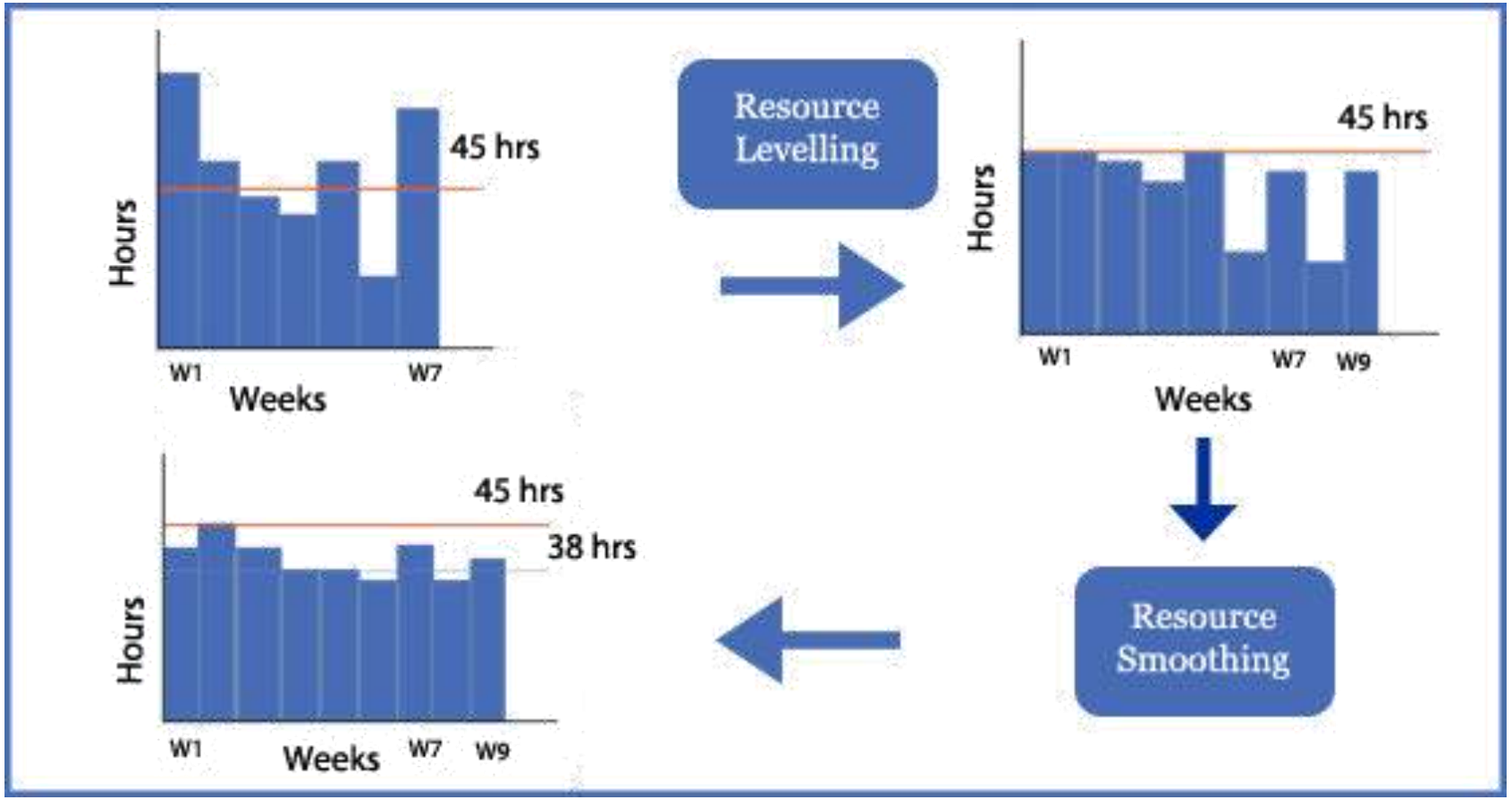
Float (slack)

In project management, float or slack is the amount of time that a task in a project network can be delayed without causing a delay to:

- subsequent tasks ("free float")
- project completion date ("total float").



HR levelling



Schedule reviewing

Tools

- **what if scenario**

Also already mentioned

- Resource levelling
- Critical chain
- Risk multipliers

Resources in academia?

All of the usual (materials, time, equipment, people)

ALSO

Personal knowledge and intellect

Personal Knowledge Management

(which can bee seen as an extension of personal information management)

Risk

- Projects NEVER go as planned
- Therefore we need to assess risks involved

Managing risk

Avoid	Share	Accept
		
Avoid project altogether?	Other teams?	Usually when no other option
Skip a high risk step?	Other organisations?	Loss<insurance cost

Identifying risk

- Stakeholder map
- WBS
- Network diagram
- Gantt Chart
- Brain storming
- Experience

P	E	S	T	L	E
Political	Economic	Social	Technological	Legal	Environmental
• Increasing political focus on healthcare • Global governments look for healthcare savings • Britain voted to leave Europe causes political turmoil	• Increasing labor cost • Inflation • Consumer confidence is low • Low fuel prices and interest rates helps promote growth in market capacity	• Hallo World Pharmacy was fined $450m for pollution issues • Increasing attention in healthcare	• Opportunity: Advertise through social media	• Hallo World Pharmacy was fined $450m for pollution issues	• Adverse weather condition causes the temporary suspension of some factories • Growing attention to environmental protection

Categories of risk

categories

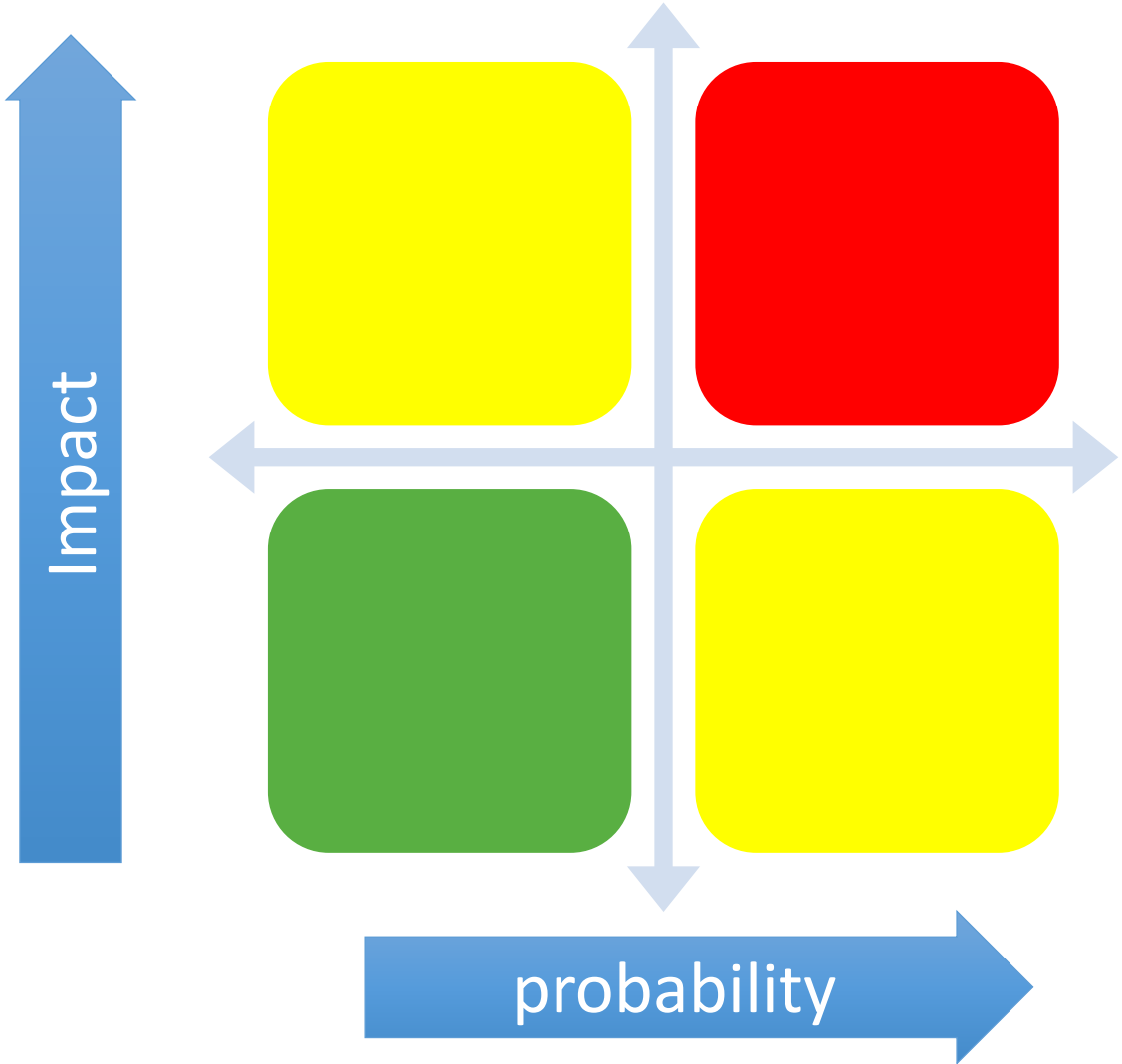
- Financial
- Strategic
- Operational
- Hazzard

(each of these can be external or internal)

considerations

- Occurrence
- Urgency
- Manageability
- Dependencies
- proximity

Quantifying risk



Wedding risks

Some examples (from personal experience)

- Ash cloud
- Inclement weather
- Stepson who thinks he is Shakespeare
- Free bar at an Irish wedding
- In-laws who don’t talk

Risk analysis

1. Identify threats

   e.g. human, operational, reputational, procedural, project, financial, technical, natural, political, structural,….

2. Estimate risk

   risk value, risk impact/probability charts

		Impact				
		Trivial	Minor	Moderate	Major	Extreme
Probability	Rare	Low	Low	Low	Medium	Medium
	Unlikely	Low	Low	Medium	Medium	Medium
	Moderate	Low	Medium	Medium	Medium	High
	Likely	Medium	Medium	Medium	High	High
	Very likely	Medium	Medium	High	High	High

Quantifying risk - EMV

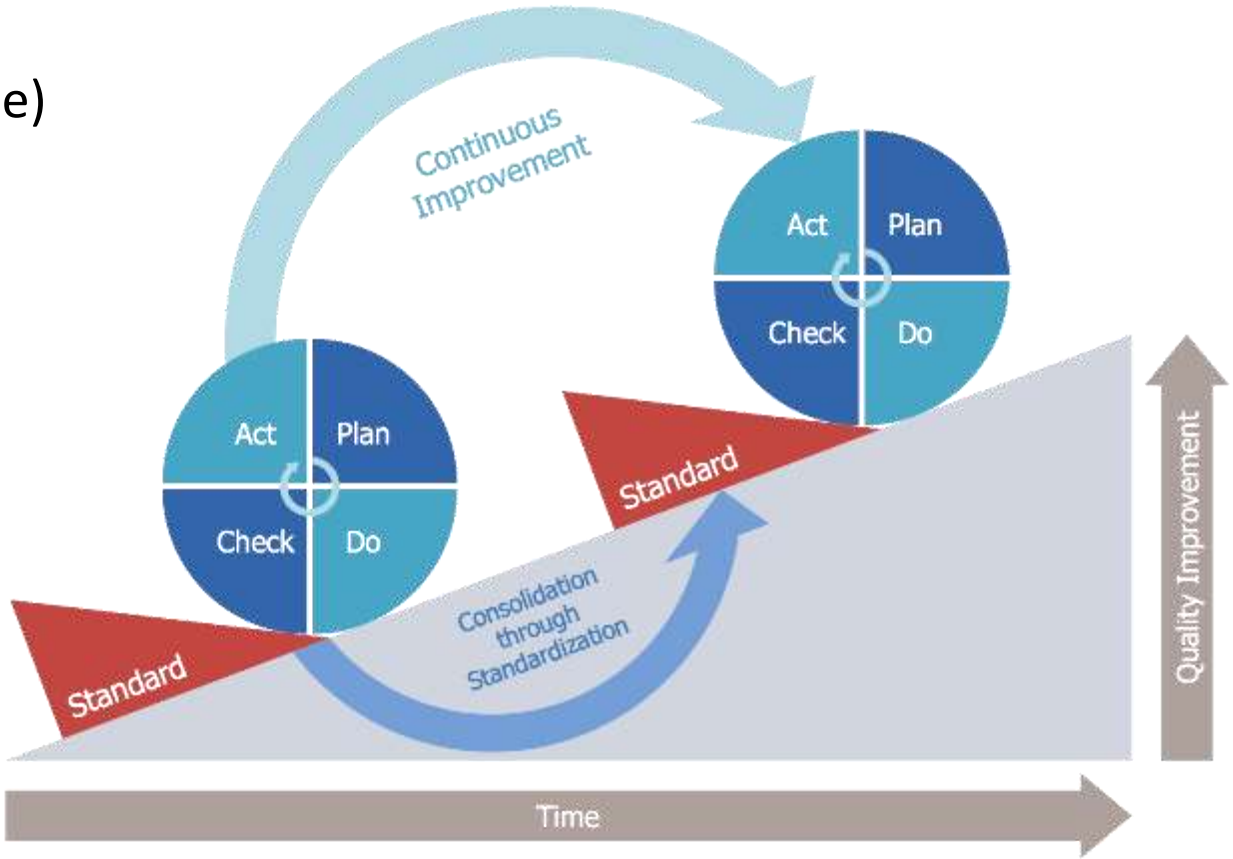
probability			impact					
			V low	low	med	high	V high	certain
			2	4	8	16	32	100
	V low	0.1	0.2	0.4	0.8	1.6	3.2	10
	low	0.3	0.6	1.2	2.4	4.8	9.6	30
	med	0.5	1	2	4	8	16	50
	high	0.7	1.4	2.8	4.8	9.6	19.2	70
	V high	0.9	1.8	3.6	7.2	14.4	28.8	90
	certain	1	2	4	8	16	32	100

	Spend resources to reduce/remove
	Case by case basis
	Build in contingency

Controlling risk

- Scale experiments
- Preventative action (e.g. H&S training)
- Plan-Do-Check-Act

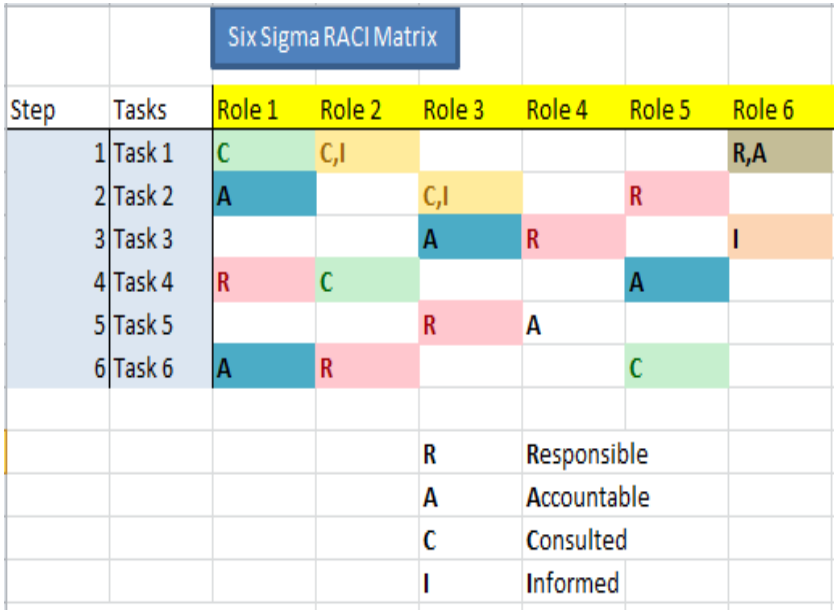
  (Demming circle)



RACI

- Responsible
- Accountable
- Consulted
- Informed

- RASCI – support
- RACIO –omitted
- RACI-VS – verify, signatory



Six Sigma RACI Matrix

Step	Tasks	Role 1	Role 2	Role 3	Role 4	Role 5	Role 6
1	Task 1	C	C,I				R,A
2	Task 2	A		C,I		R	
3	Task 3			A	R		I
4	Task 4	R	C			A	
5	Task 5			R	A		
6	Task 6	A	R			C	

R	Responsible
A	Accountable
C	Consulted
I	Informed

Risk management process

Identify Risks

Quantify the risks

Categorise risks

Responses

Contingency

Manage RMP

Write Risk management plan

Contingency formula

Build in a contingency for green (and maybe some amber) risks

Add contingency to budget

Risk Value = P×C

P= probability of risk occurring e.g. 0.8 = 80%

C = cost to project if risk does happen e.g. €200,000

Risk management plan

- Define time periods
- Identify the trigger
- Keep the plan simple
- Consider related resource restrictions
- Identify everyone's needs
- Define success
- Include contingency plans in standard operating
- Manage your risks
- Identify operational inefficiencies

Budgets/Costs – the basics

Top down approach

- Normal for research projects
- Management decide budget and divide between work packages

+ encourages efficiency and cost saving

- if management (funders) lack expertise, it can be a guess

Bottom up

- Costs are calculated from individual tasks and summed together
- Budget is prepared by the team members

+ accuracy

- potential to miss tasks and so not have budget for them

Parametric

- Modelling the cost

What is Cost and Project Cost Management?

- **Cost** is a resource sacrificed or foregone to achieve a specific objective or something given up in exchange
  - Costs are usually measured in monetary units like €

- **Project cost management** includes the processes required to ensure that the project is completed within an approved budget
  - Project managers must make sure their projects are **well defined,** have accurate **time** and **cost** estimates and have a realistic **budget** that they were involved in approving

What goes wrong

- Lack of realistic project cost estimates from the outset
  - Many of the original cost estimates for projects are **low** to begin with and based on very unclear project requirements

- Many professionals think

  preparing cost estimates is a job for

  accountants it's actually a joint

  PM/AC job

- Many projects involve new technology or business processes which involve untested products and inherent risks

Budget – categories of costs

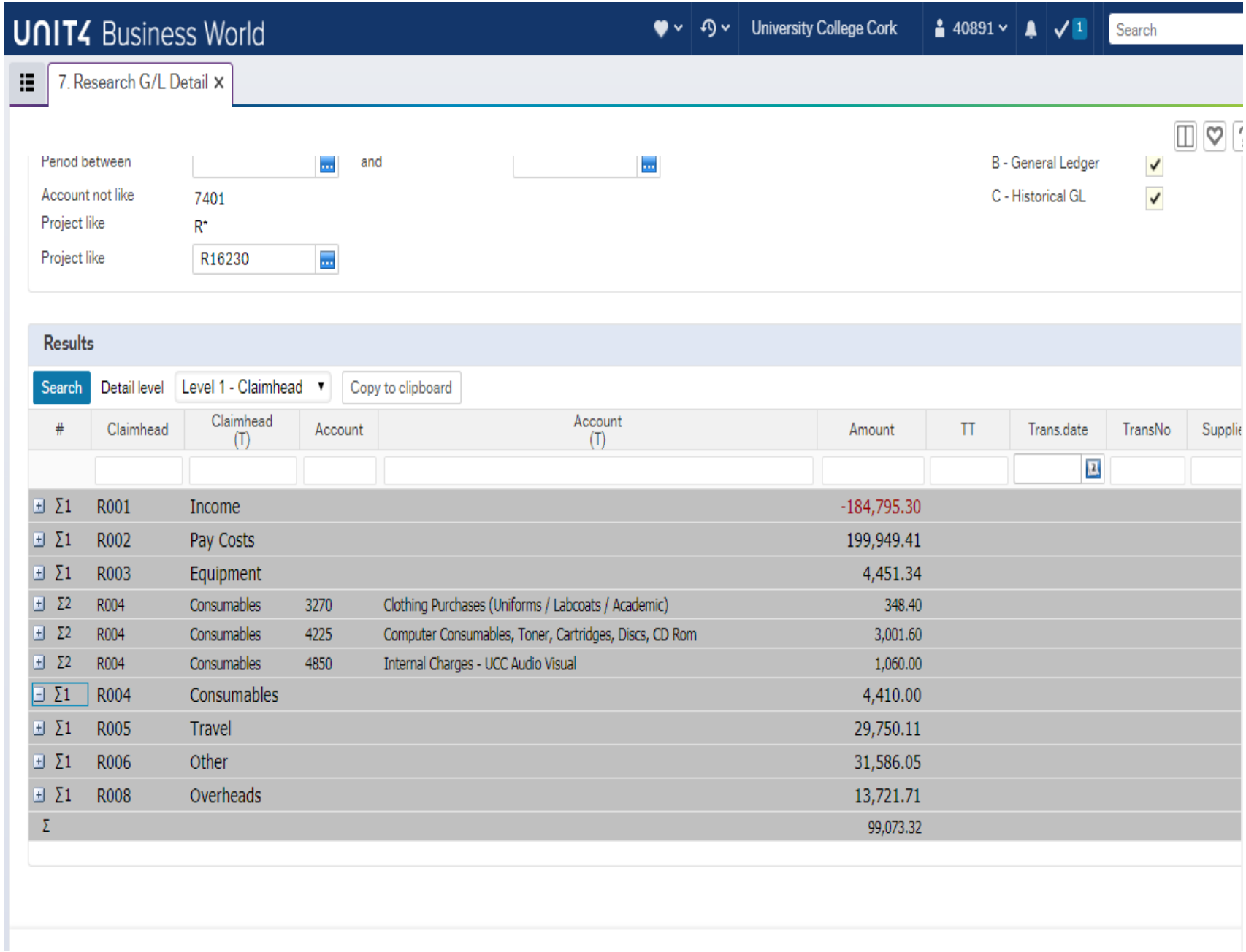
- **Direct costs**
  - Staff (people)
  - Consultant fees
  - Raw materials
  - Software licenses
  - Travel
- **Indirect costs (shared)**
  - Telephone charges
  - Office space (rent)
  - Office equipment
  - General administration
  - Company insurance
- **Sunk Costs**
- In the past

- Overheads
- Contingency/ reserve
- Tax/VAT

Salary

Guidelines for Contract Researchers Salary Scales						
		Researchers Salary Scales		(Applicable from 01 January 2018)*		
		GROSS SALARY	Obligatory contribution	Obligatory contribution	Budget amount	You are obliged under the Fixed Term Workers Act (2003) to provide Pension Costs for temporary and contract staff. In accordance with the Employment Control Framework, and in recognition of the fact that staff in contract research and other externally funded posts have entitlements to future pension benefits which is a deferred cost or liability for the Exchequer, any such new posts created or any renewal / renegotiation of existing contracts must include an employer's pension contribution charge of 20% of gross pay. This represents the estimated contribution required from the project funder, in addition to the employee's own personal pension contribution, to cover the deferred cost to the Exchequer of future pension entitlements.
Column 1		Column 2	Column 3	Column 3	Column 4	
Post-Doctorate Researcher	Point 1	36,854	3,999	7,371	48,224	Minimum of PhD or equivalent* research experience (including industrial R&D).
	Point 2	37,383	4,056	7,477	48,915	
	Point 3	39,138	4,246	7,828	51,211	
LEVEL 2	Point 4	40,259	4,368	8,052	52,678	
	Point 5	41,413	4,493	8,283	54,189	Level on scale dependent on funding availability and experience, and will also be market-driven and discipline-related.
	Point 6	42,603	4,622	8,521	55,746	
	Point 7	43,828	4,755	8,766	57,349	
	Point 8	45,090	4,892	9,018	59,001	
	Point 9	46,389	5,033	9,278	60,700	* EU defines PhD equivalent 4 years fulltime research after primary degree
	Point 10	47,728	5,178	9,546	62,451	

	A	B	C	D	E	F	G	H
4			Budget per year					
5	**Budget Category(*)**		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total Project**
6		**Category of expenditure**	**€**	**€**	**€**	**€**	**€**	**€**
7		Contract staff	127,612	119,636	95,709	95,709	-	438,666
8	Flexible	Temporary staff	-	-	-	-	-	-
9		Post doctorates	-	-	-	-	-	-
10		Post graduates	-	-	-	-	-	-
11		Consumables & Module delivery (internal venue)	28,498	31,945	28,845	27,198	-	116,485
12	Fixed	Travel and subsistence	8,000	8,000	8,500	7,000	-	31,500
13		**SUB TOTAL**	164,110	159,581	133,054	129,907	-	586,651
14		Durable equipment	9,750	3,600	-	-	-	13,350
15	Fixed	Other	-	-	-	-	-	-
16		Module delivery (external venue)	19,105	25,990	30,490	26,605	-	102,190
17		start up costs	16,000	9,500	-	-	-	25,500
18		Sub-Contracting Costs	-	-	-	-	-	-
19	Fixed	Overheads	41,027	39,895	33,264	32,477	-	146,663
20		**TOTAL GRANT REQUESTED**	**249,992**	**238,567**	**196,808**	**188,988**	**-**	**874,354**
21	41027.38	Other financial contributions (from Table 3)	-	-	-	-	-	-
22		**TOTAL PROJECT COST**	249,992	238,567	196,808	188,988	-	874,354


UNIT4 Business World
University College Cork
40891
Search
7. Research G/L Detail
Period between
and
Account not like
7401
Project like
R*
Project like
R16230
B - General Ledger
C - Historical GL
Results
Search
Detail level
Level 1 - Claimhead
Copy to clipboard
Claimhead Claimhead (T) Account Account (T) Amount TT Trans.date TransNo Supplie
Σ1 R001 Income -184,795.30
Σ1 R002 Pay Costs 199,949.41
Σ1 R003 Equipment 4,451.34
Σ2 R004 Consumables 3270 Clothing Purchases (Uniforms / Labcoats / Academic) 348.40
Σ2 R004 Consumables 4225 Computer Consumables, Toner, Cartridges, Discs, CD Rom 3,001.60
Σ2 R004 Consumables 4850 Internal Charges - UCC Audio Visual 1,060.00
Σ1 R004 Consumables 4,410.00
Σ1 R005 Travel 29,750.11
Σ1 R006 Other 31,586.05
Σ1 R008 Overheads 13,721.71
Σ 99,073.32

Preparing a budget

1. Define the Direct Labor Cost

2. Estimate the Material Costs of the Project

3. Assess Potential Travel Costs of the Project

4. Define What Equipment Costs May Exist in the Project Budget

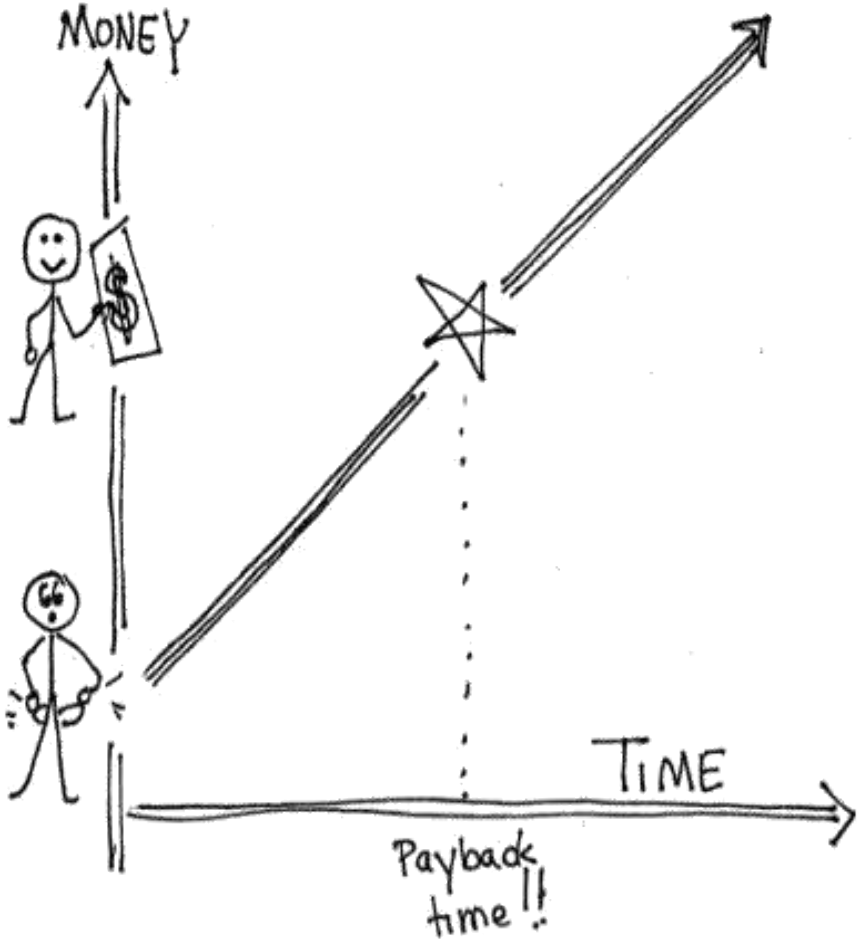
5. What Administrative Costs Will Be Incurred?

6. Define the Cost of Software, IP, If Necessary (publications???)

7. Add taxes, overheads, regulatory costs

Controlling costs

- Simplest method is linear budget/time

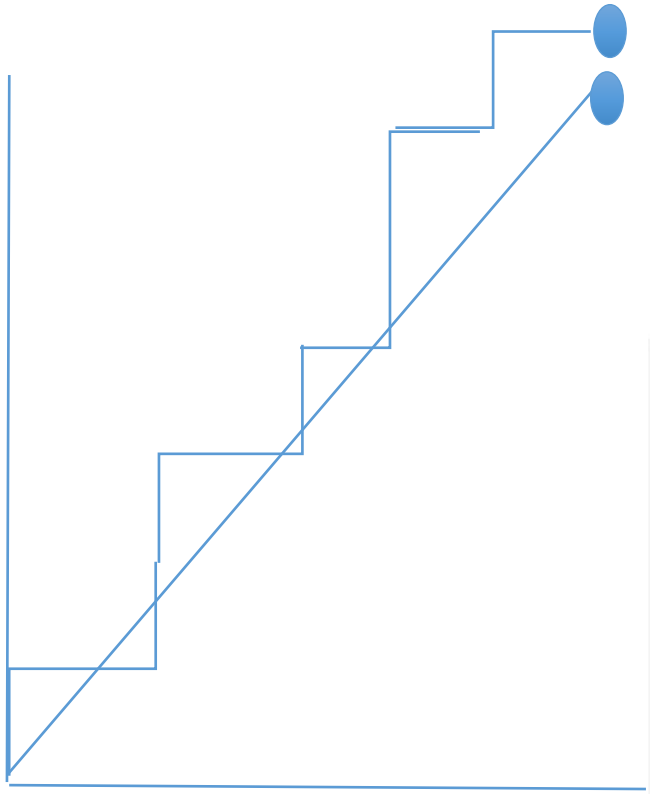


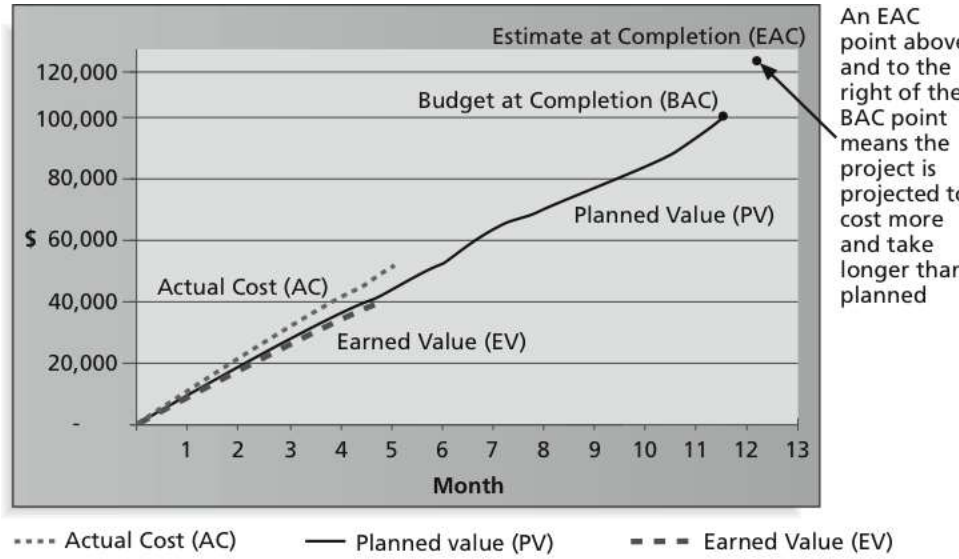
Earned value chart

EAC = AC + ETC

Revised budget

budget





Execution - 4 elements

- Doing the work
- Reporting the work
- Solving live problems
- Managing change

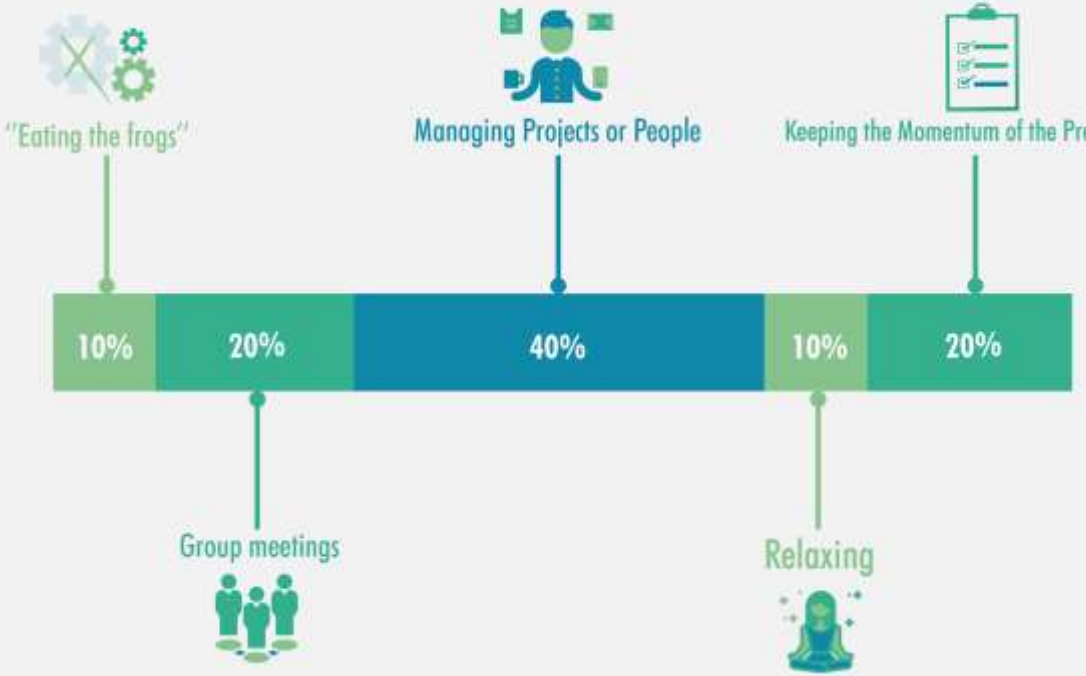
What do you need?

- Project planning documents (Charter, scope statement, budget, WBS, Gantt chart)
- Other related documents (standards, technical documentation, analyses, contracts etc).
- Institutional regulations (accountancy, hiring, procedures for preparing contracts etc). **NB!** Very important, if the PM has not managed projects or structural units before.
- In a later phase of a project: corrections to the project plan and other related documents.

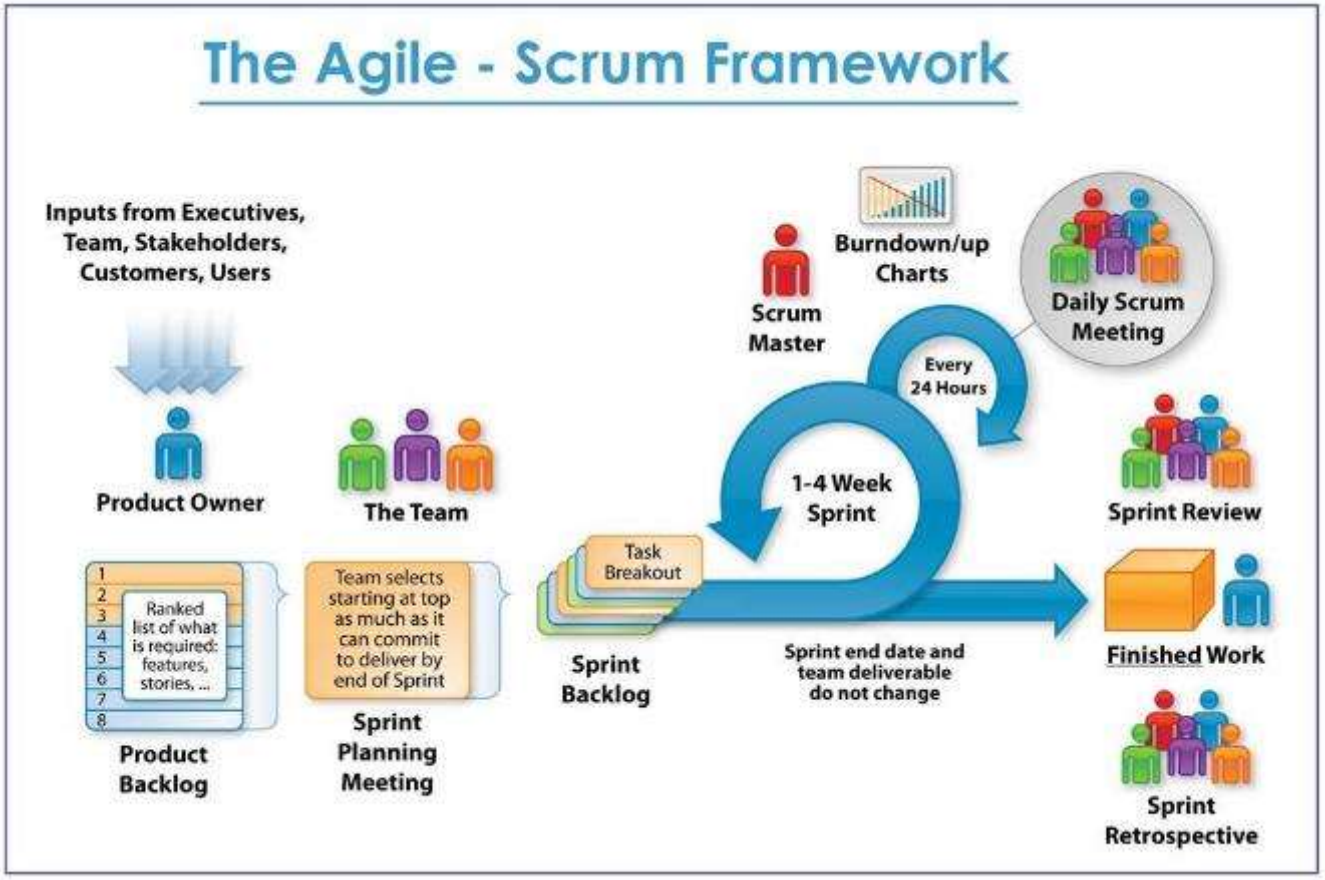
Doing the work

- Every project is different
- Impossible to give “how to guide”
- Good opportunity to get profile of “a day in the life”

- However, every day is different.



Meetings – one suggestion



Momentum – some suggestions

- Keep on top of emails (batchwise)
- Reviewing all the notes from the meetings, including all troubleshooting. (action lists)
- Learning and planning from them for future actions (Lessons learned).
- Coordinating the resources (clarity).
- Meeting the specialists (expert judgement).
- Even though project managers are planners by nature of their jobs, it is possible that over the course of the day their focus, energy levels and overall momentum drop (know your rhythm).

Project Reporting

- You will need different reports for different
  - Audiences
  - Purposes

Some examples

Change requests

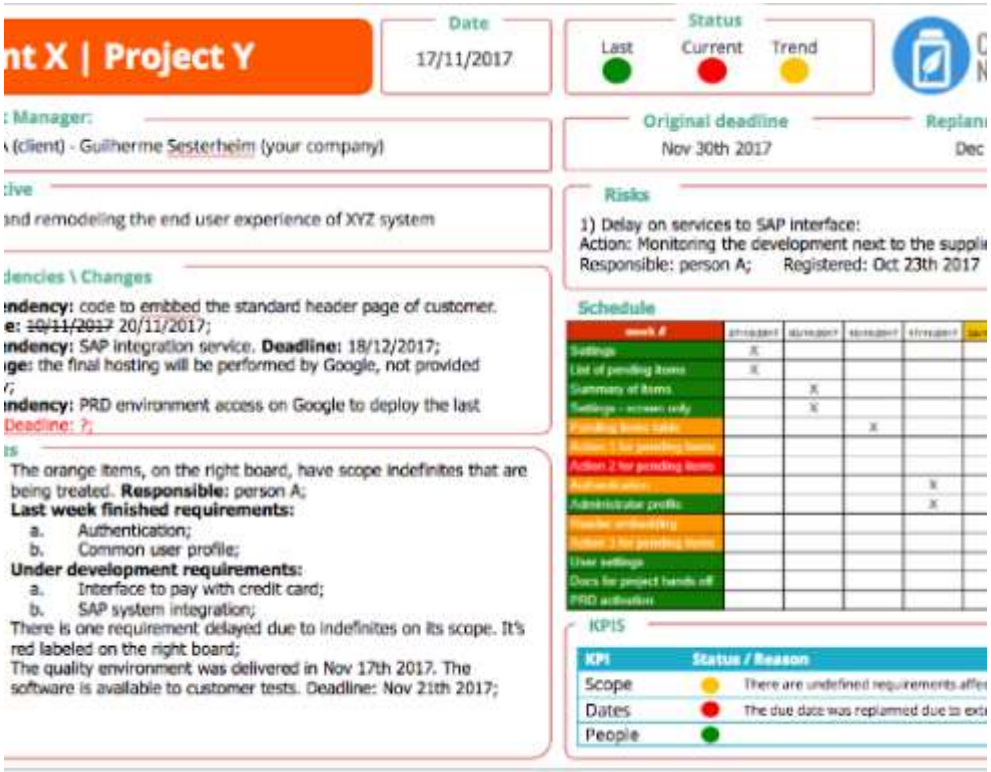
Annual reports

Milestone reports

Stakeholder communication

…….

Performance reporting



- Collect information
- Format for distribution
- Distribute
- Focus on
  - Project status
  - Progress since last report
  - Forecast
- Only include useful info
- Can be simple or very elaborate depending on project.

What about **milestone** reports?

- The first part of a milestone report ("Milestones Completed") describes what has happened so far. It provides a quick summary of what has been accomplished and when.

- Description of Milestone: Here you provide details about what was accomplished in order to complete the milestone specification.

- Due Date: Record when the milestone was due according to the current project plan.

- Actual Completion Date: Record when the milestone was actually accomplished.

- Comments: This section is for providing details about modifications from the original plan i.e. why the due date was missed or why deliverables were changed.

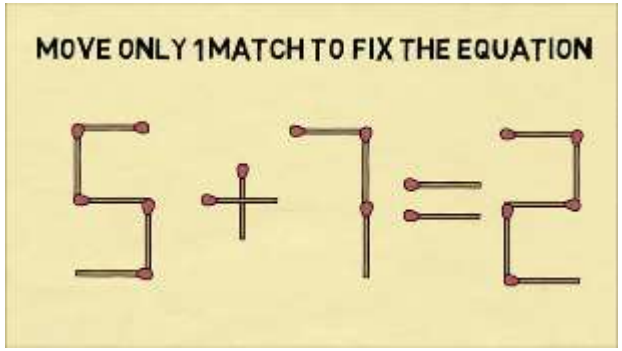

Summary
Pipeline
Project Health
Data Quality
Actuals
Calendar
Active Projects
Dec 10
90
Planned Cost
Dec 10
$9.90M
Planned Benefits
Dec 10
$6.86M
Estimate at Completion
Dec 10
$27.00M
Actual Cost
Dec 10
$18.00M
Actual Benefits
Dec 10
$18.90M
Benefit Plans by Category
Risk reduction =...
Customer satisfaction score...
Cost saving...
Process improvement = 3%
90
Projects Planned Benefits by Category
Customer satisfac...
Process improvement
Cost savings
Risk reduction
Total Planned Benefits
Projects by Business Unit
Finance = 3
Marketing = 5
Legal = 5
IT = 5
HR = 5
(empty) = 67
90
Projects by Investment Type
Service Sustaining = 3
strategy_enabler ...
Revenue Generating = 4
Legal and R...
End User Ex...
(empty) = 67
90
Projects by Investment Class
Run = 10
Change = 13
(empty) = 67
90
Projects by Priority
4 - Low
2 - High
3 - Moderate
5 - Planning
1 - Critical
Project Count

When things go wrong

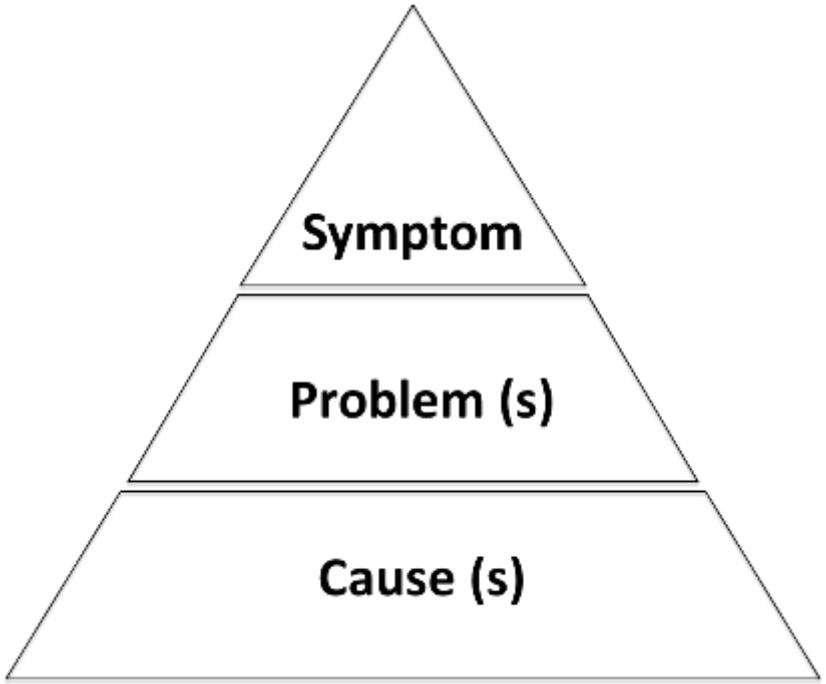
Is it a problem?

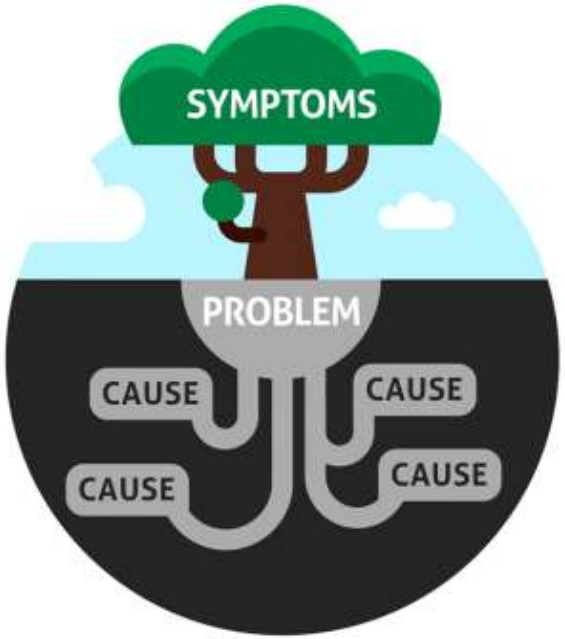
4 steps

1. Defining the problem.
2. Generating alternatives. -Creativity
3. Evaluating and selecting alternatives. -Decision Making
4. Implementing solutions. - Project Management



Defining the problem





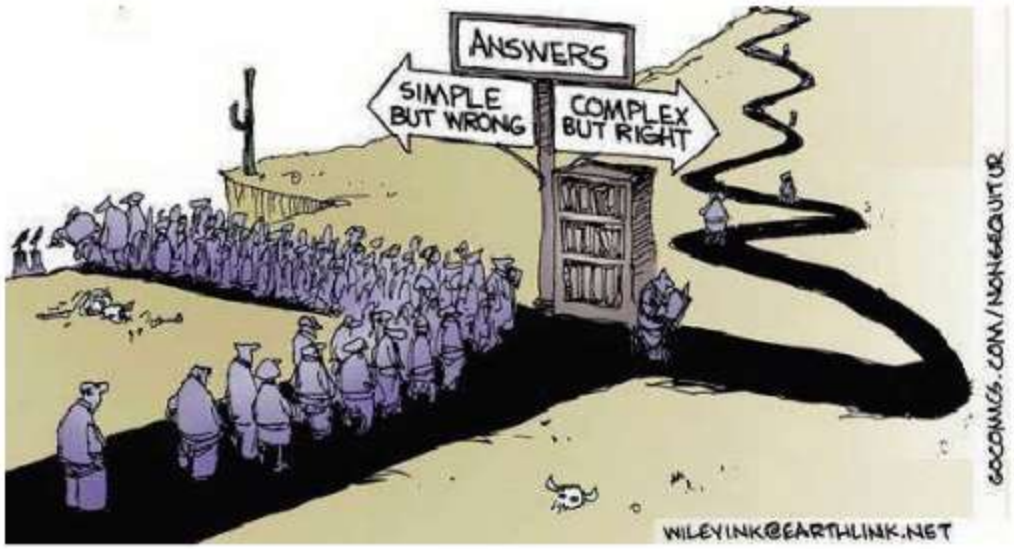
5 whys

現地現物
"genchi genbutsu"
go and see for yourself

TOYOTA

When to use 5 whys

- Simple or moderately difficult problems
- Single track root causes



Other approach's

Root cause analysis

Affinity diagrams

Cause and effect diagrams

Flow chart

Swim lane diagram

Systems diagram

bottlenecks

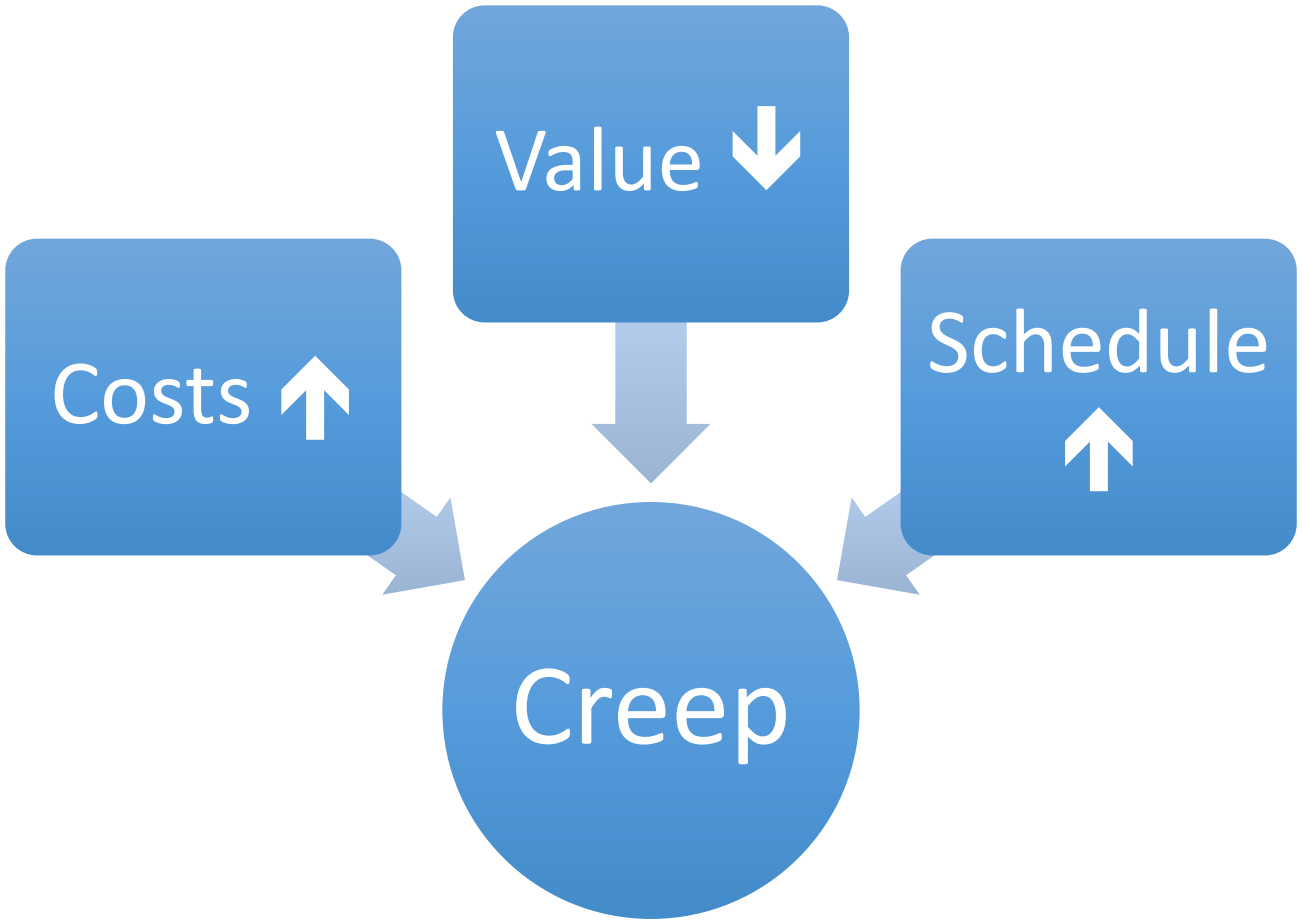
Issues v risk

- Risk are somewhat predictable and quantifiable
- Issues are less clear
- An issues log allows you to do the following:
  - Have a safe and reliable method for the team to raise issues.
  - Track and assign responsibility to specific people for each issue.
  - Analyze and prioritise issues more easily.
  - Record issue resolution for future reference and project learning.
  - Monitor overall project health and status.

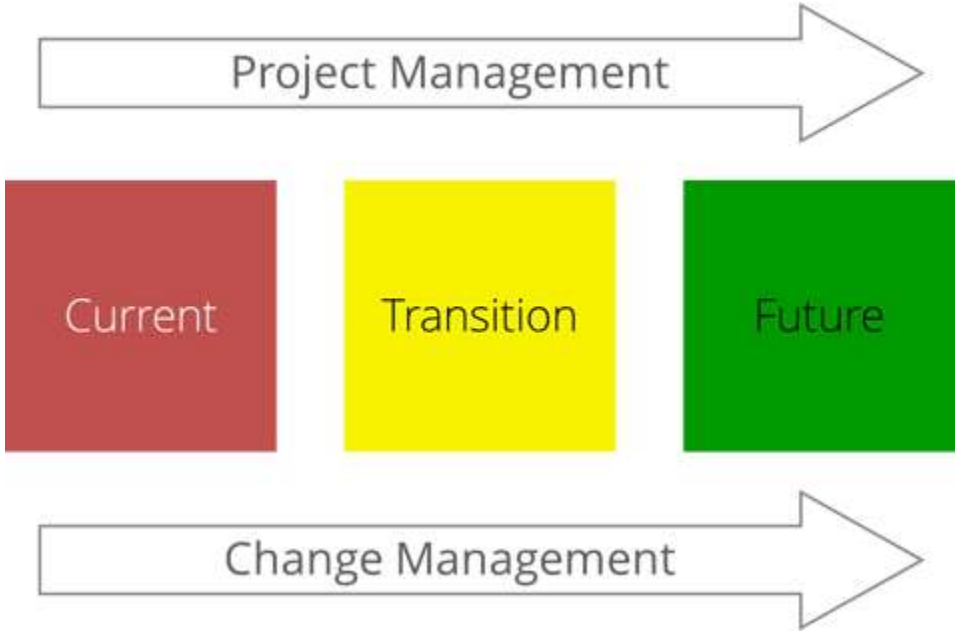
Change management

The first step in managing change is to know about the change

Scope creep

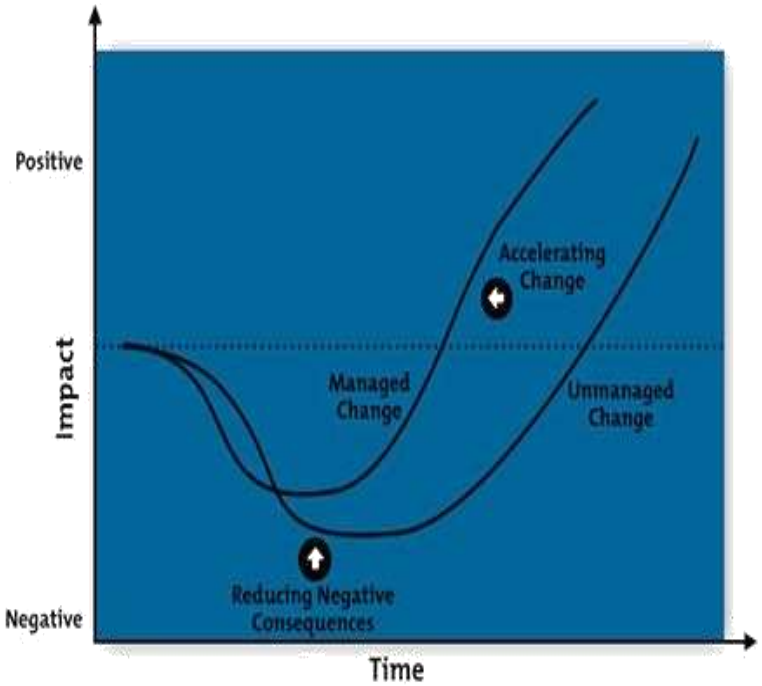


Project management is change management



Change Management

- Major Challenge with change is knowing about it!
- It is the PMs responsibility to make every effort to trap any changes
- Once identified changes can be managed
- Most often the change is in expectations



Change request forms

If you only get one document signed – make it this one!

Change Request			
Project:			Date:
Change Requestor:			Change No:
Change Category (Check all that apply):			
☐ Schedule	☐ Cost	☐ Scope	☐ Requirements/Deliverables
☐ Testing/Quality	☐ Resources		
Does this Change Affect (Check all that apply):			
☐ Corrective Action	☐ Preventative Action	☐ Defect Repair	☐ Updates
☐ Other			
Describe the Change Being Requested:			
Describe the Reason for the Change:			
Describe all Alternatives Considered:			
Describe any Technical Changes Required to Implement this Change:			
Describe Risks to be Considered for this Change:			
Estimate Resources and Costs Needed to Implement this Change:			
Describe the Implications to Quality:			
Disposition:			
☐ Approve	☐ Reject	☐ Defer	
Justification of Approval, Rejection, or Deferral:			

Change Board Approval:		
Name	Signature	Date

Project health check

steps

1. Set objectives of check
2. Decide who will take charge
3. Choose methodology
4. Carry out check
5. Present findings
6. Next steps

elements

- What are you checking? which sections of project?
- What level of authority, do they know the project? Experience?
- Interviews, financial, workshops,
- Report, presentation, discussion

Closing a project in 5 easy steps

Lessons Learned Template

What Went Well

Special Recognition

What Could Have Been Done Better

What Should Have Been Done Differently

Next Steps / Action Item	Suggested Timeframe	Responsible Person / Team	Action Taken
1.			
2.			
3.			
4.			

PROJECT CLOSURE CHECKLIST

Close a project by ensuring that all obligations have been met

1. Contract Closure

- Are all contracts closed out?
- Suppliers?
- Sub-contractors?
- Donors?
- Others?
- Implementing organizations?
- Has the donor reviewed and accepted project deliverables?

2. Financial Closure

- Has all permitted funding been received from the donor?
- Have all receivables (project advances, travel advances, and advances to suppliers) been liquidated or transferred to another project number or accounting code?
- Have all payables been paid?

3. Administrative Closure

- Have project personnel been released or reassigned?
- Have the project equipment, vehicles, offices been reallocated? Sold? Transferred?
- Are project reports and closure documents complete?
- Are project archives and/or files up to date?

PIR

PIR

Post implementation review: some questions

- Did the project fully solve the problem that it was designed to address?
- Can we take things further, and deliver even bigger benefits?
- What lessons did we learn that we can apply to future projects?

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Some tips

- Ask for openness
- Be objective
- Document success
- Look with hindsight
- Be future-focused
- Look at both positives and negatives

Completion

- Always have a closure meeting and make it social
- Carefully control the agenda
- Lessons learned?
  - Review estimates
  - Review risks
  - Check all paper work completed
    (invoices paid?)
  - Have you left everything audit ready?
  - archiving
- Review dissemination plan, is it complete?

Peak end effect