

QQI Level 6

Project Management

**Module 1:
Course Introduction**



Damian McCourt

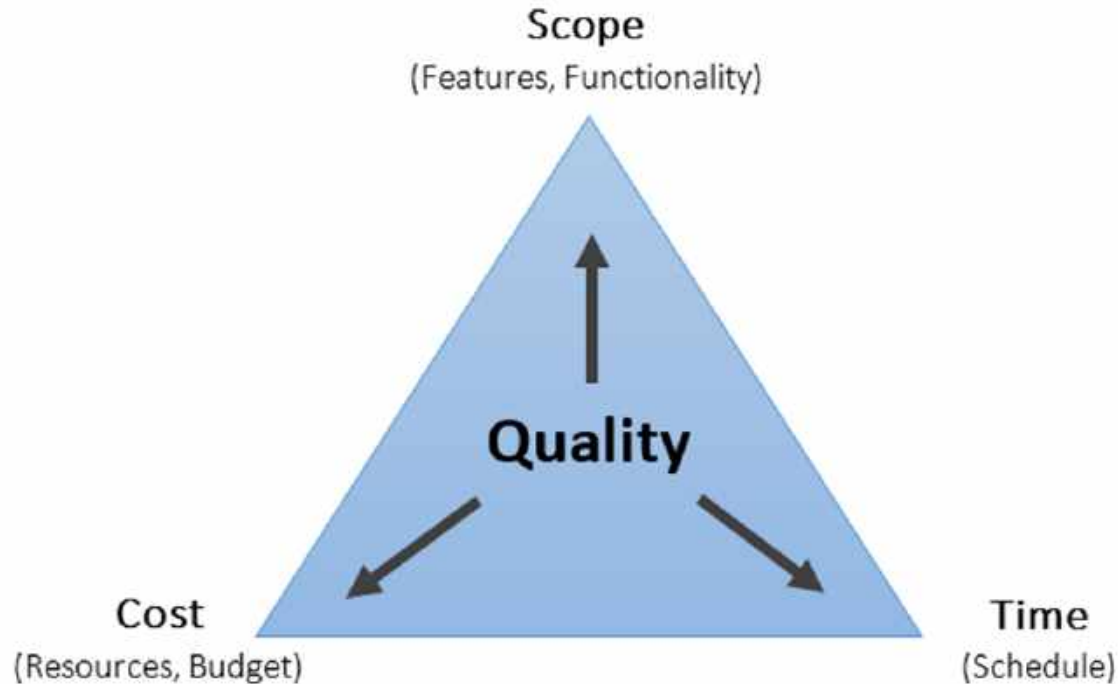
In this module

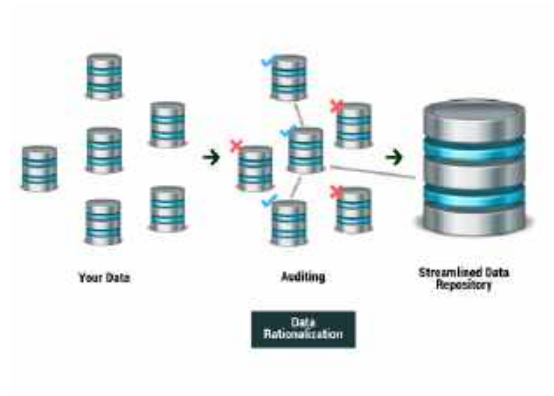
- Defining a project
- Project manager qualities
- Failures in project management
- Approaching the course assignments

Project?

“A temporary endeavour undertaken to create a unique product, service or result. A project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources”

The Triple Constraints





Project Manager?

Project managers are change agents: they make project goals their own and use their skills and expertise to inspire a sense of shared purpose within the project team. They enjoy the organized adrenaline of new challenges and the responsibility of driving business results.

They work well under pressure and are comfortable with change and complexity in dynamic environments. They can shift readily between the "big picture" and the small-but-crucial details, knowing when to concentrate on each.

Project managers cultivate the people skills needed to develop trust and communication among all of a project's stakeholders: its sponsors, those who will make use of the project's results, those who command the resources needed, and the project team members.

They have a broad and flexible toolkit of techniques, resolving complex, interdependent activities into tasks and sub-tasks that are documented, monitored and controlled. They adapt their approach to the context and constraints of each project, knowing that no "one size" can fit all the variety of projects. And they are always improving their own and their teams' skills through lessons-learned reviews at project completion.

Failures

Air Force scraps useless \$1 billion ECSS IT project

October 16, 2017 | @gizmodo | Unregistered | 0



DAVIDHUB CC-BY

The US Air Force has decided to scrap a \$1 billion IT project rather than spend another \$1 billion to make it work properly. The Expeditionary Combat Support System (ECSS) was to be an Enterprise Resource Planning (ERP) system to replace over 200 legacy systems currently used by the Air Force. The goal of the project was to help the Air Force improve its logistical operations, make the most effective use of its resources, and improve communication with other stakeholders such as contractors. It was to be a key tool in helping the Air Force meet accounting and auditing requirements in 2017.

Siren police IT project's £15m failure a 'debacle'

19 June 2014

f t e Share



Surrey's police and crime commissioner has called for one of Britain's most senior police officers to be held to account for the failure of a multi-million pound computer project.

A report into the £15m system to log crime information found oversight of the project was 'not fit for purpose'.

Abandoned NHS IT system has cost £10bn so far

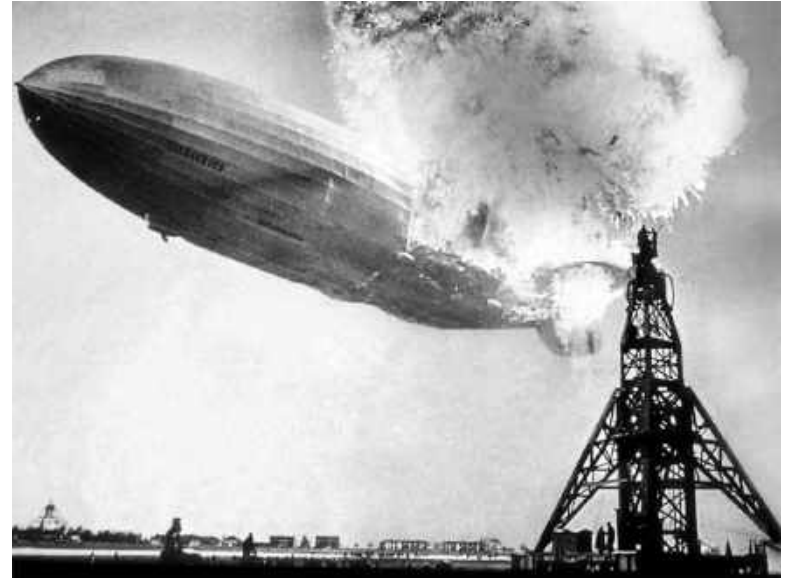
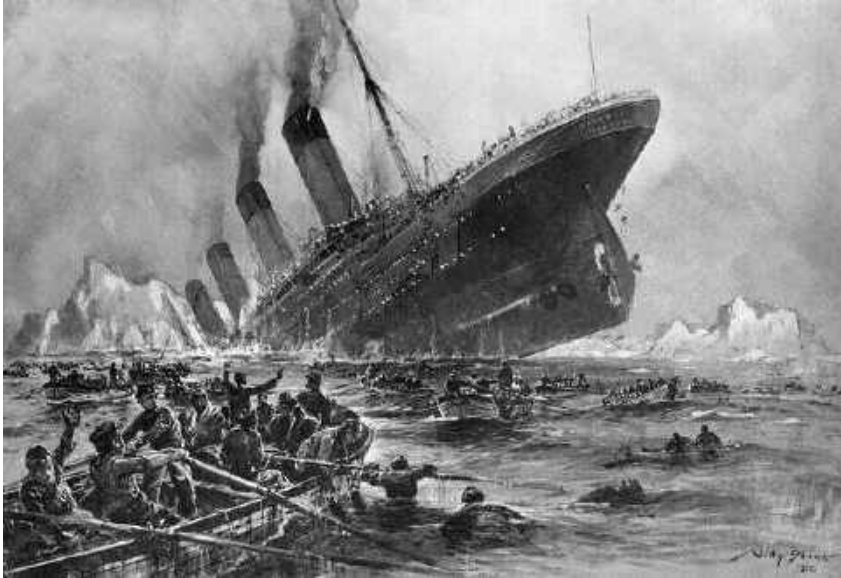
Bill for abortive plan, described as 'the biggest IT failure ever seen', was originally estimated to be £6.4bn



The public accounts committee found that two rigorous IT systems for the NHS are being poorly managed. Photograph: Martin Godwin for the Guardian

An abandoned NHS patient record system has so far cost the taxpayer nearly £10bn, with the final bill for what would have been the world's largest civilian computer system likely to be several hundreds of millions of pounds higher, according to a highly critical report from parliament's public spending watchdog.

Failures



Failures

Deadlines missed

Annoyed stakeholders

Budget overruns

Repeated work

Scope creep

Reputational damage

Quality issues

Loss of relevance

Failures



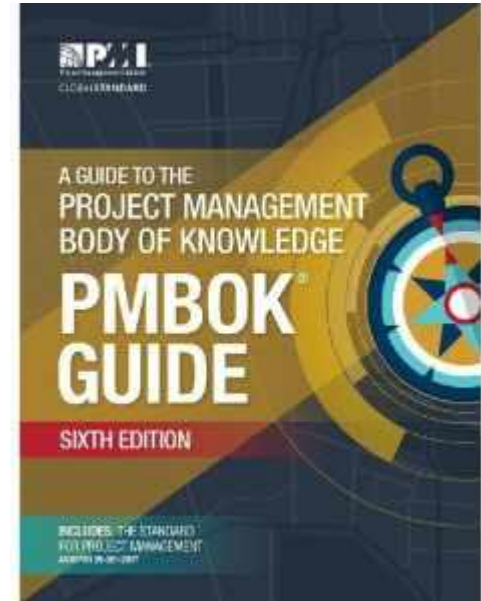
Success?

- Competence as a project manager
- Industry / subject matter competence
- Attitude to project procedures & documentation
- Expertise in adapting project management frameworks

Top 4 reasons projects fail

- Poor or incomplete requirements
- Scope creep
- Lack of change control
- A lack of a structured project management methodology

Project Management Methodology



Assignments

- QQI certification based on:
- Portfolio of Work (70%, 5,000 words)
- Assignment essay (30%, 3,000 words)



Assignments



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**Module 2:
PMI and the Project
Lifecycle**



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In this module

- The Project Management Institute and PMBOK
- The project lifecycle
- Project knowledge areas

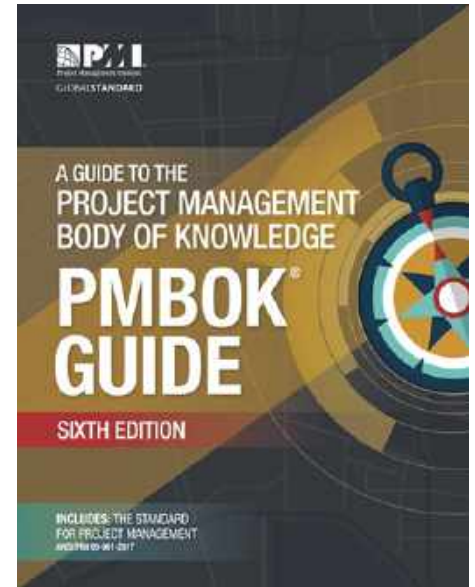
PMI

- www.pmi.org/about
- Project management framework
- Consistent, best-practice approach to managing projects
- Lexicon of project management terms
- High-level certification path
- Project management body of knowledge

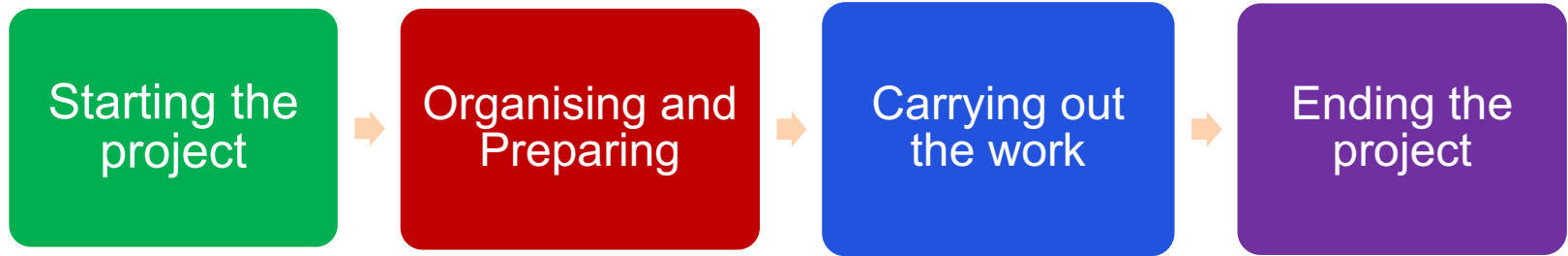


PMBOK

- Project management body of knowledge
- The project management framework in detail
- Standards, processes and procedures
- Best practice
- Dictionary of terms
- Process templates



Project Lifecycle



Initiation

- Develop Project Charter
- Identify Stakeholders

Planning

- Develop Project Management Plan
- Collect Requirements
- Define Scope
- Create WBS
- Define Activities
- Sequence Activities
- Estimate Activity Resource
- Estimate Activity Duration
- Develop Schedule
- Estimate Cost
- Determine Budget
- Plan Quality
- Develop Human Resource Plan
- Plan Communications
- Plan Risk Management
- Identify Risk
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Procurement

Execution

- Direct and Manage Project Execution
- Perform Quality Assurance
- Acquire Project Team
- Develop Project Team
- Manage Project Team
- Distribute Information
- Manage Stakeholder Expectations
- Conduct Procurement

Monitoring & Controlling

- Monitor and Control Project Work
- Perform Integrated Change Control
- Verify Scope
- Control Scope
- Control Schedule
- Control Costs
- Perform Quality Control
- Report Performance
- Monitor and Control Risks
- Administer Procurements

Closing

- Close Project or Phase
- Close Procurements

Five Process Groups

- 
1. Project Integration Management
 2. Project Scope Management
 3. Project Schedule Management
 4. Project Cost Management
 5. Project Quality Management
 6. Project Resource Management
 7. Project Communications Management
 8. Project Risk Management
 9. Project Procurement Management
 10. Project Stakeholder Management

10 Knowledge Areas

10 Knowledge Areas

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality Management	8.2 Perform Quality Assurance	8.3 Control Quality	
9. Project Human Resource Management		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

Table 3-1. Project Management Process Group and Knowledge Area Mapping
A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Fifth Edition, ©2013 Project Management Institute, Inc. All rights reserved.

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**Module 3:
Waterfall and Agile
Methodologies**

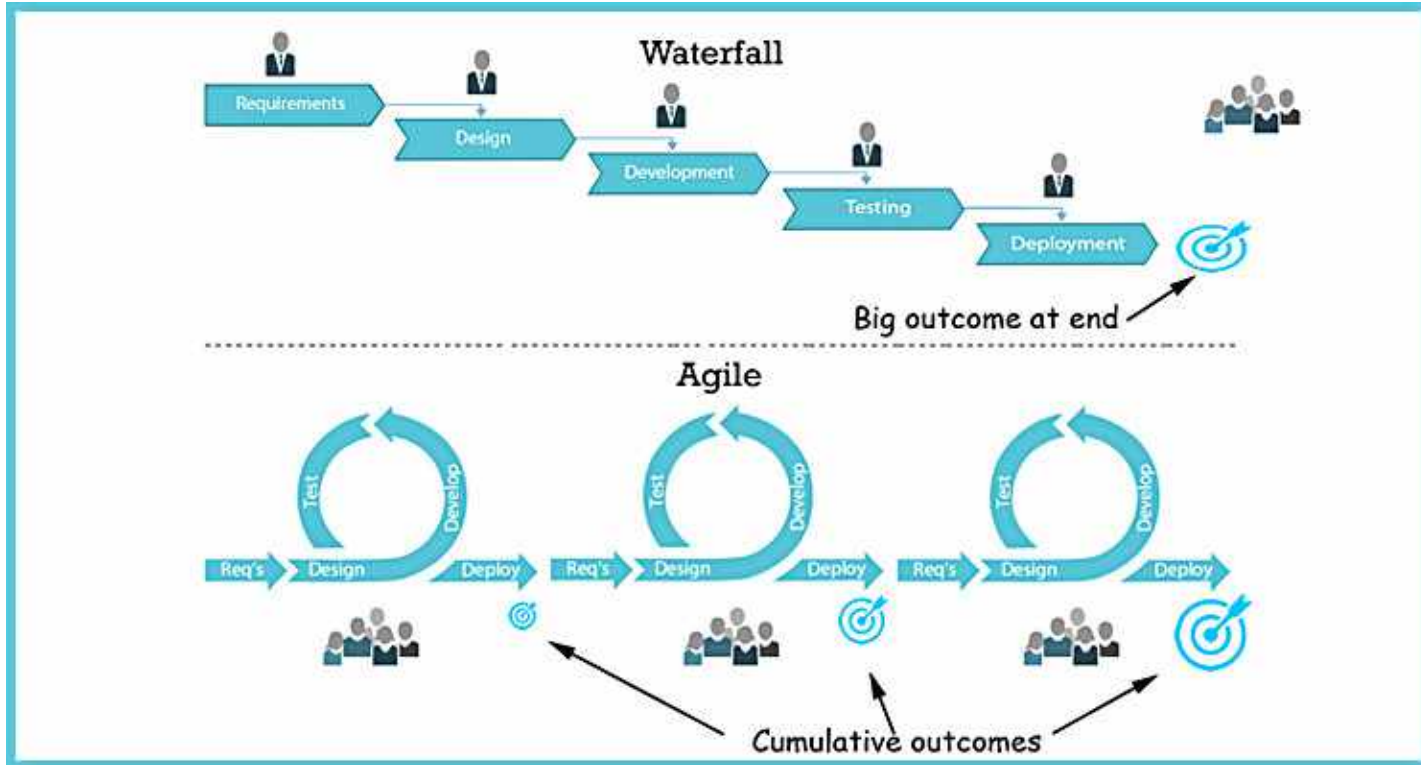


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In this module

- Waterfall and agile project management methodologies
- Assumptions in project management

Waterfall and Agile



Waterfall and Agile

Agile

Short, iterative cycles

End-user closely involved

Requirements unclear

Collaborative work

Waterfall

Gated progress

User Quality Assurance only

Well-defined requirements

Strictly managed work

Waterfall and Agile

Agile

Gradually more refined

Avoids assumptions

Can go on forever 😞

Needs an experienced PM

Waterfall

Easier to budget and schedule

Easier to manage

Assumptions can kill a project

Requirements may change

Assumptions!



- NASA/ESA Mars Climate Orbiter
- US\$ 193.1m
- Thrust specified in Pounds
- Programmed in Newtons
- “Mars Climate Orbiter Mishap Investigation Board Phase”

Assumptions!

- Focus on the project planning stage
- On identifying stakeholders
- On clear communications plans
- Past projects lessons learned - PMO

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**Module 4:
Project Management
Organisational Supports**



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In this module

- Organisational goals
- Program and portfolio management
- The Project Management Office

Organisational Goals



Organisational Goals

Project: Temporary endeavour undertaken to create a product, service or result

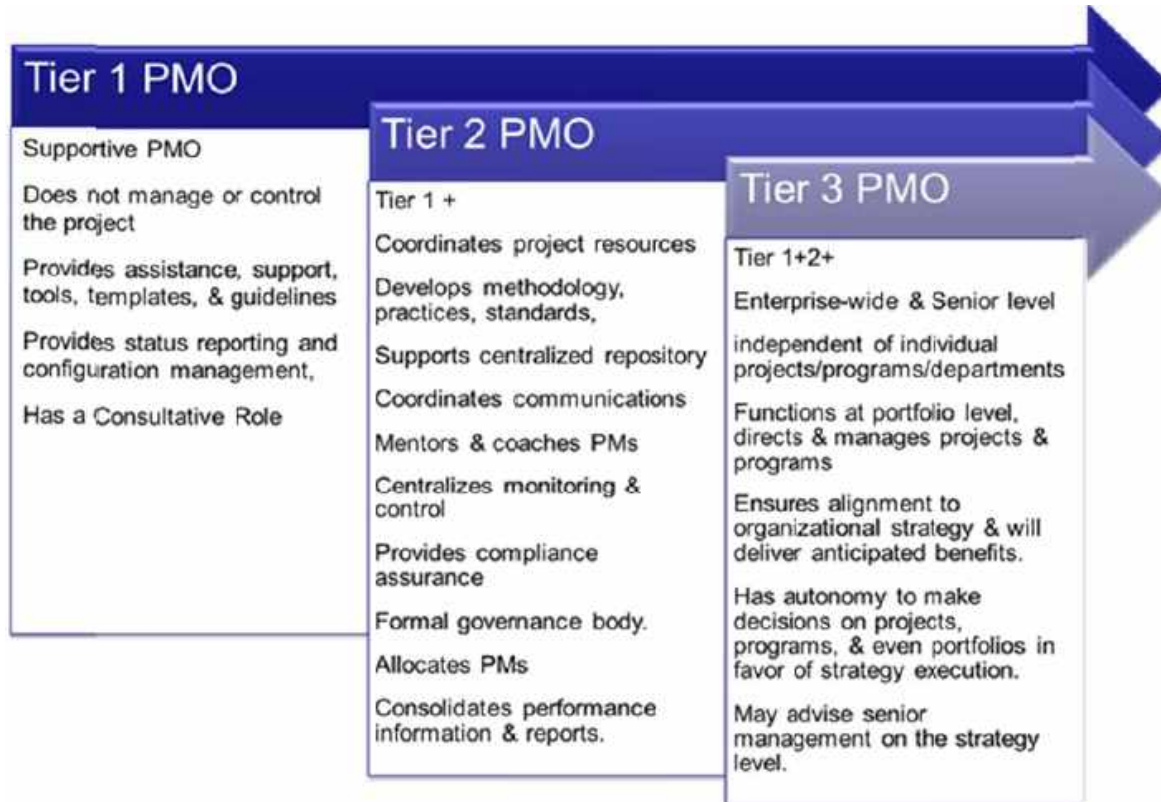
Program: A group of related projects and activities managed in a co-ordinated manner

Portfolio: A collection of projects, programs and other activities managed as a group to achieve strategic objectives

Project management office

- Managing shared resources across all projects administered by the PMO
- Identifying and developing project management methodology, best practices, and standards
- Coaching, mentoring, training, and oversight
- Monitoring compliance with project management standards, policies, procedures, and templates by means of project audits
- Developing and managing project policies, procedures, templates, and other shared documentation
- Coordinating communication across projects

Project management office



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**Module 5:
The Business Case**



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In this module

- What is a business case for?
- Structuring a business case
- Initiation stage document



The Business Case

The Business Case

- “Sales pitch” to senior management
- Contains all the information to determine if the expected project outcomes justify the required investment
- Plain English document

The Business Case

- Business needs
- Analysis of the situation
- Options for action and one recommendation
- Implementation
- How benefits will be measured

Business Needs

- What prompted the need for action?
- What's the problem or opportunity being addressed?
- What value will this deliver to the organisation?
- Who are the stakeholders?
- What is the scope of the change?

Analysis

- What are the organisational goals or objectives?
- What is the root cause of the problem (or opportunity)?
- Gap analysis
- Identification of known risks
- Identification of success factors (for the business!)
- Required – Desired – Optional criteria

Options and Recommendation

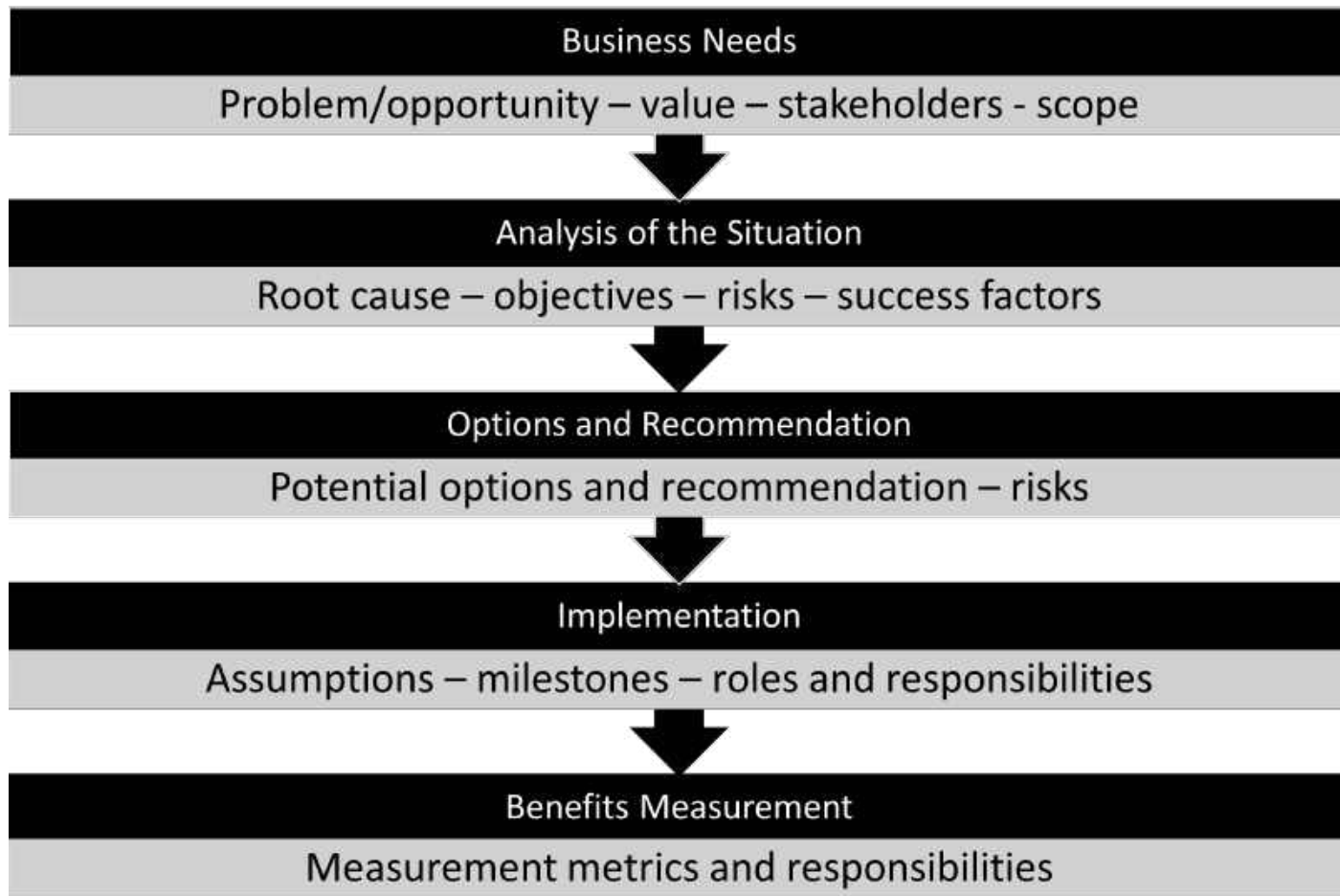
- Potential courses of action
- Risks, dependencies, constraints for each course of action
- Recommended option and reasoning
- How success will be measured

Implementation

- High level!
- Milestones
- Dependencies / assumptions
- Roles and responsibilities

Benefits Measurement

- How we will measure the benefits the project will deliver
- Initial measurement (before and after)
- Ongoing operational aspects



Benefits

- Every PMI document exists for a reason
- High level justification for spending
- Focus on return on investment
- Aligned with strategic objectives?
- Focus on before and after measurement

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**Module 6:
The Project Charter**



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In this module

- What is a project charter for?
- Structure of the project charter
- What goes into making it
- The Assumption Log

Project Charter?

- Formally authorises the existence of a project
- Provides project manager with authority to apply organisational resources to project activities
- Links project to strategic objectives of the organisation
- Creates a formal record of the project



The Project Charter

Inputs and processes

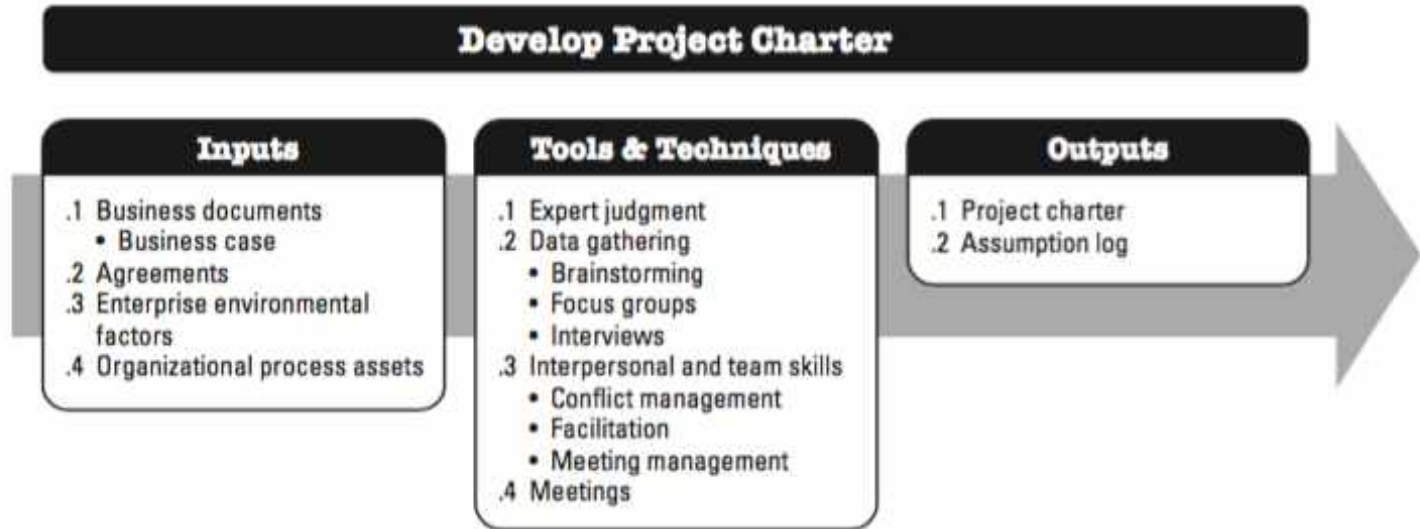


Figure 4-2. Develop Project Charter: Inputs, Tools & Techniques, and Outputs

Enterprise Environmental Factors

- Industry standards
- Regulatory requirements
- Marketplace conditions
- Organisational culture / climate
- Stakeholders expectations / risk thresholds

Organisational process assets

- Organisational standards and procedures
- Monitoring and reporting methods
- Document templates
- Lessons learned repository
- Inputs from the Project Management Office (PMO)

Project Charter Tools

“Expert judgment”

- Technical knowledge of the industry
- Risk identification
- Budget estimation
- Scheduling expertise
- Organisational strategy

Project Charter Tools

“Data gathering”

- Brainstorming – idea generation / idea analysis
- Focus groups – subject matter experts and stakeholders
- Interviews – high level requirements, approval criteria, constraints
- Stakeholders tend to describe what they’d like to be able to do
(activities) rather than the things they need to do it (deliverables)

Outputs

- Project purpose
- Measurable objectives and success criteria
- High-level requirements
- High-level project description – boundaries and key deliverables
- Key milestones
- Summary of risk (to the project)
- Key stakeholders

Outputs

- Project success criteria – what constitutes success, who decides
- Assigned project manager – responsibilities and authority level
- Sponsor name and authority levels
- Exit criteria – conditions under which the project can be closed or cancelled
- **Scope statement**

Scope Statement

- One main deliverable

- Higher levels of elaboration only

“A sales office”

“Equipment and facilities for a maximum of 20 staff”

“Full access to head office application suite”

“Local document printing”

Assumption Log

- Assumptions should ALWAYS be identified and agreed with stakeholders and sponsor
- High-level, appended to project charter
- Low-level built up as project progresses – living document
- Can feed into Lessons Learned Repository...
- ...if you have a PMO to manage this

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Module 7: Stakeholders



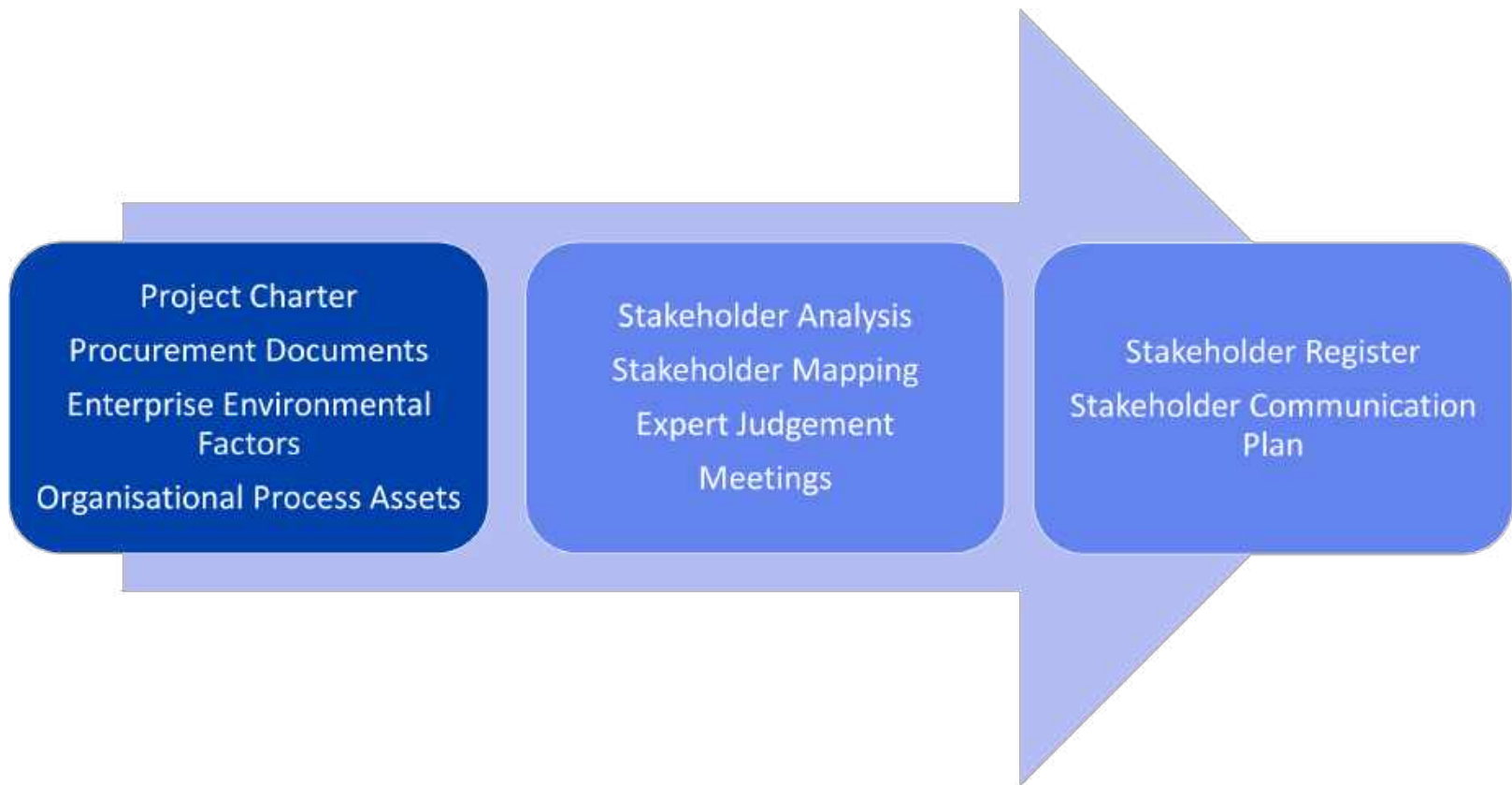
Damian McCourt

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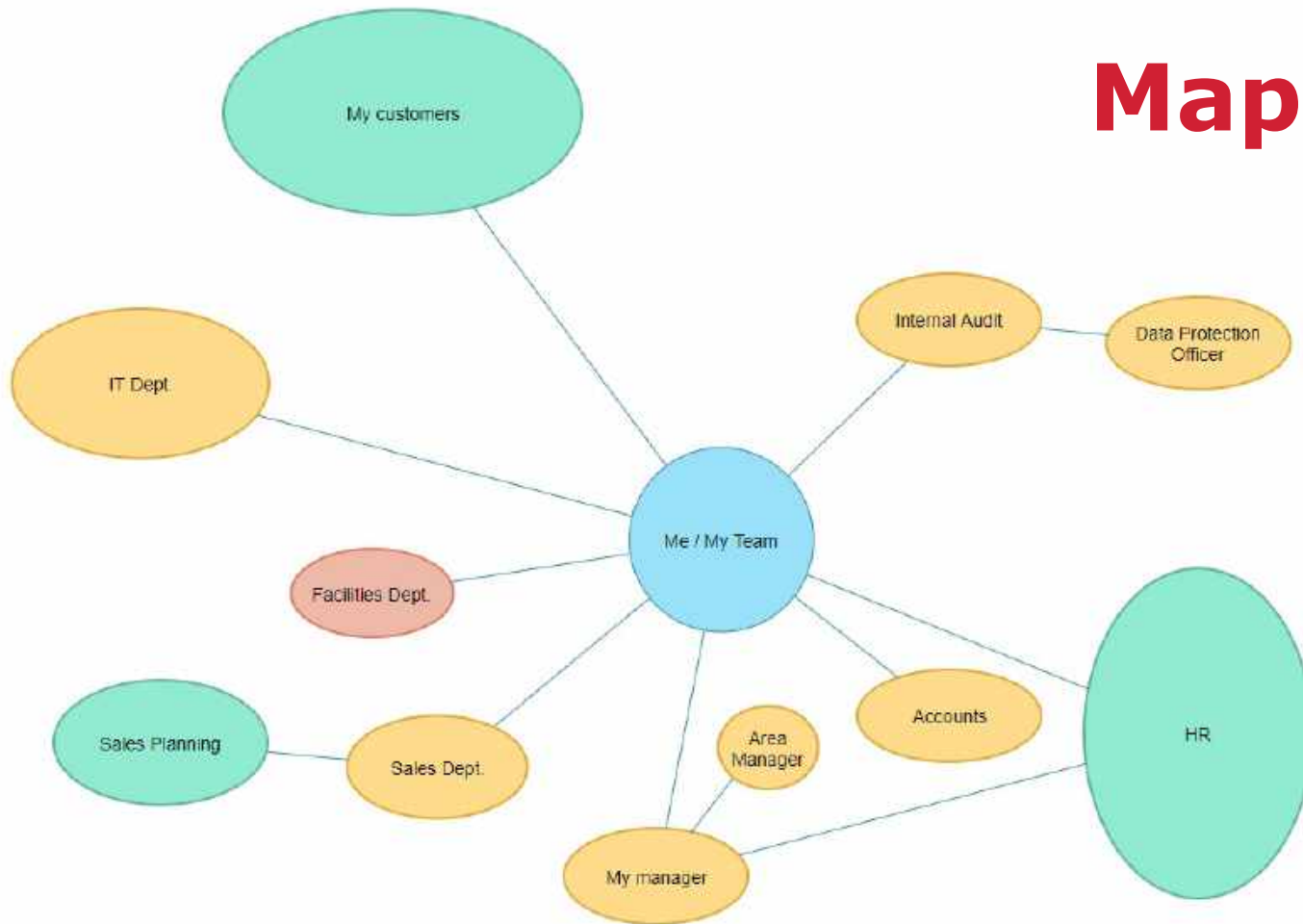
- Who are stakeholders?
- Identifying and prioritising stakeholders
- Stakeholder communication plans

Stakeholders?

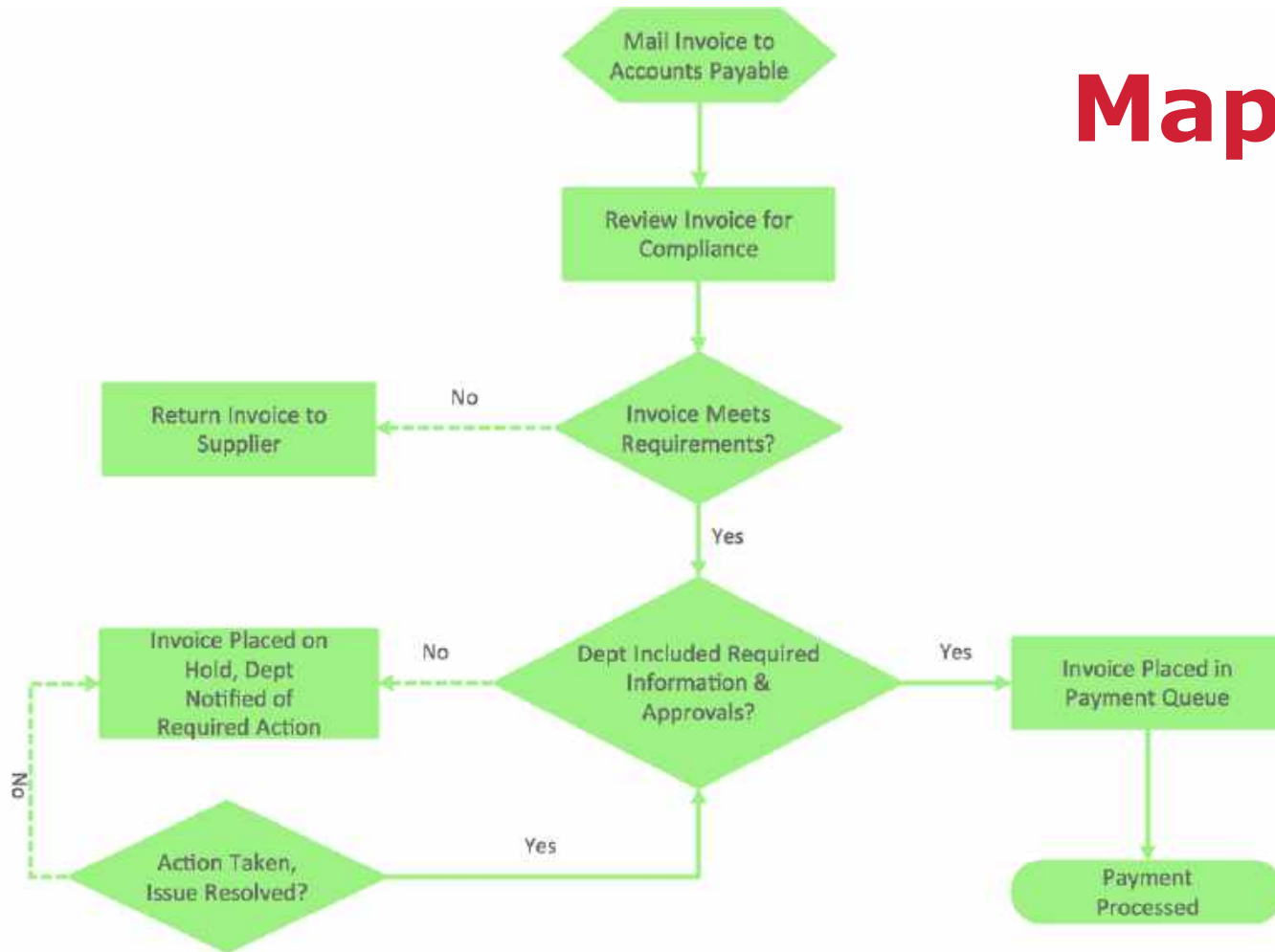
- Anyone impacted positively or negatively by the project
- Anyone with a degree of influence over the project
- May change over the life of the project
- Identification can impact success or failure of a project



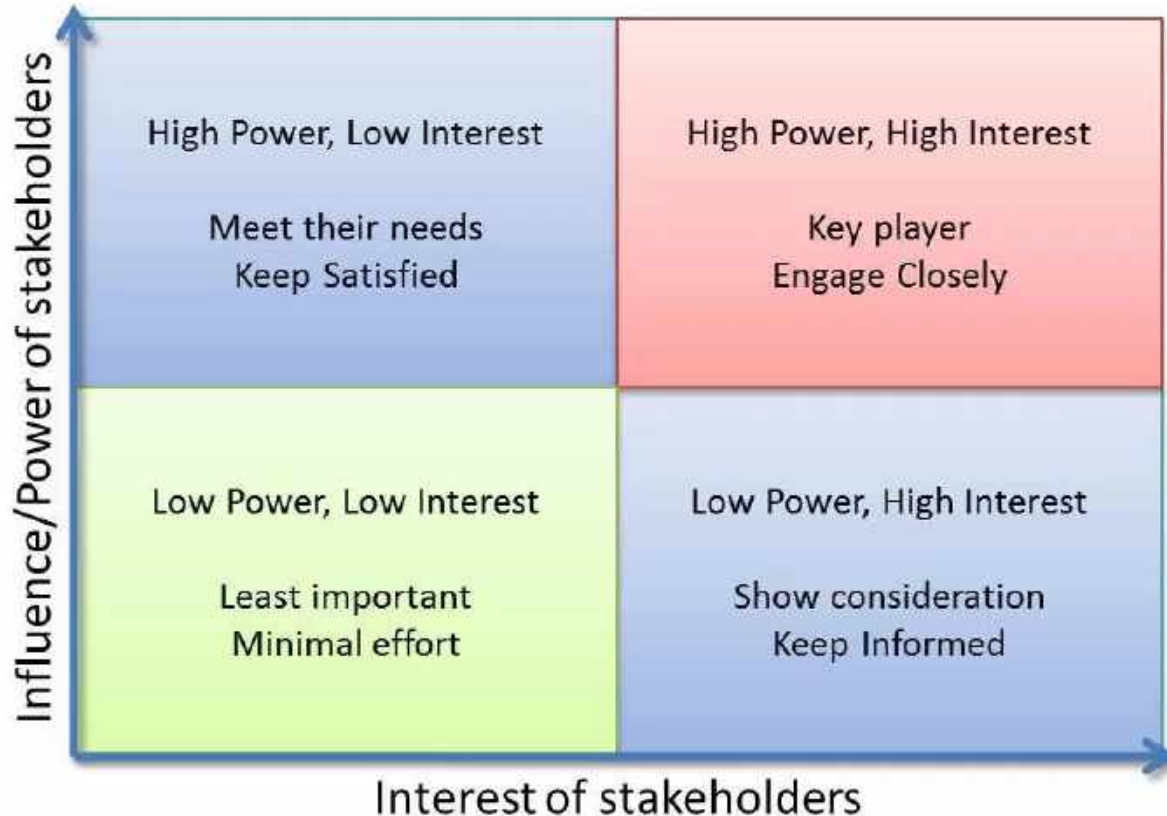
Mapping



Mapping

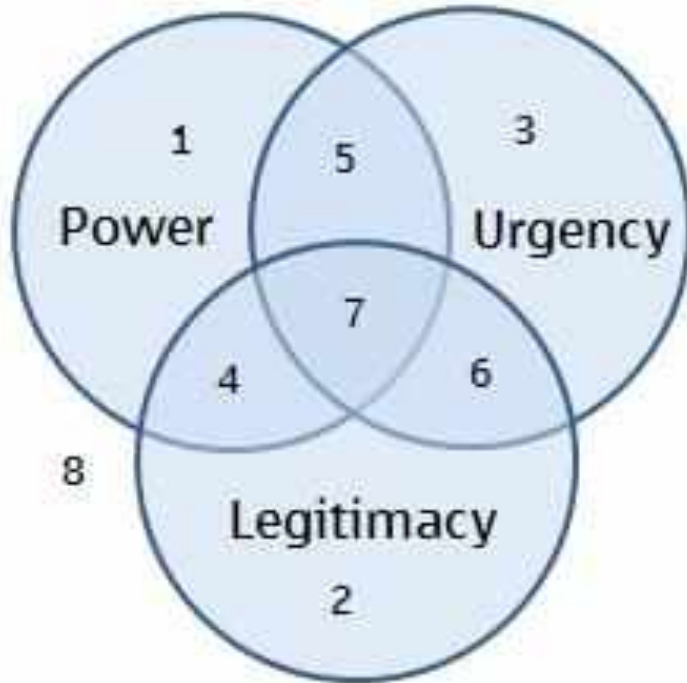


Prioritising

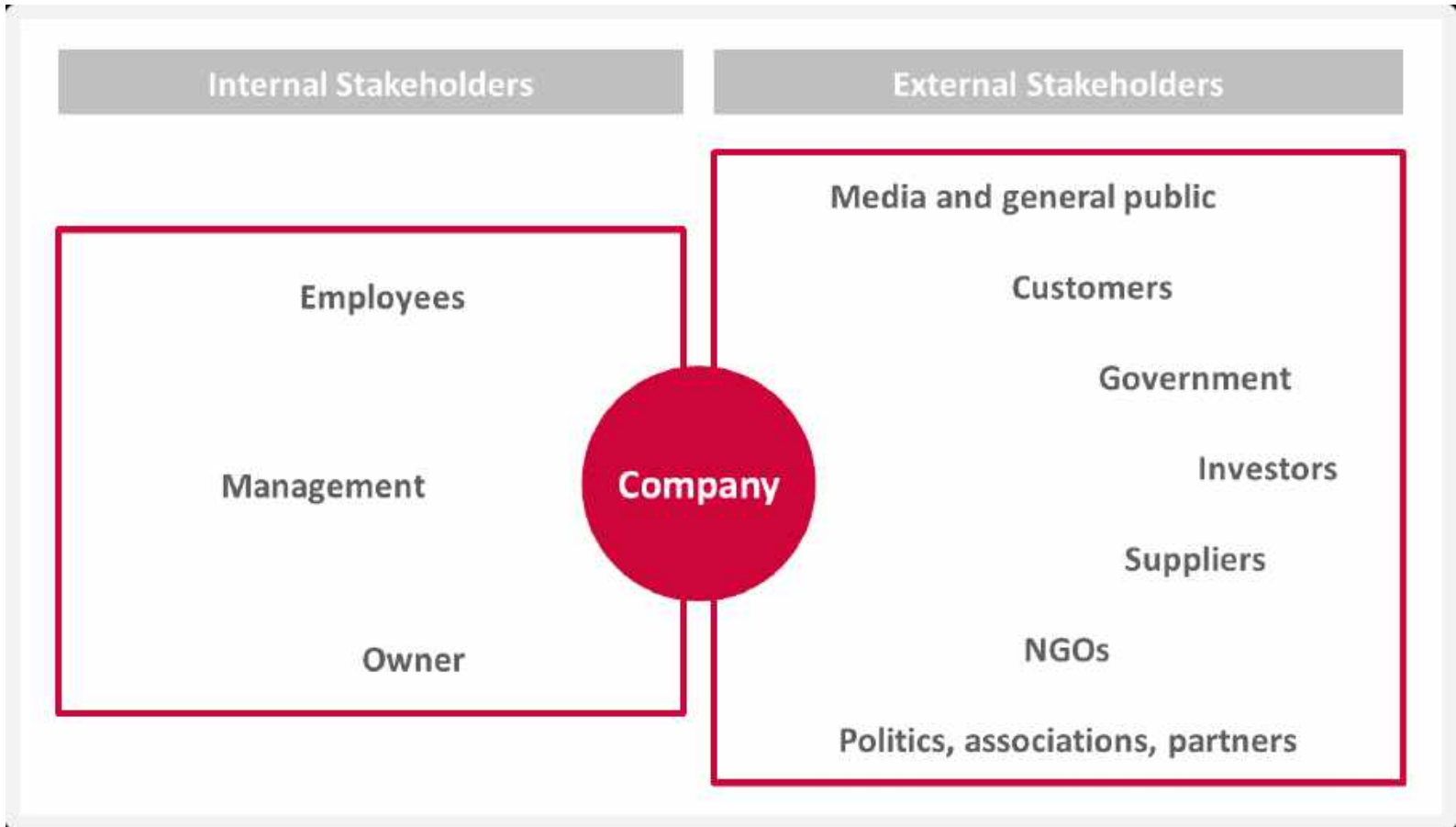


Prioritising

Stakeholder Management: Salience Model



1. Dormant
2. Discretionary
3. Demanding
4. Dominant
5. Dangerous
6. Dependent
7. Definitive
8. Non stakeholder



Stakeholder Register

Identification

- Name (person or organisational unit)
- Organisational position
- Location and contact details
- Role on the project

Assessment

- Major requirements
- Expectations
- Potential for influencing project outcomes
- Project phase where stakeholder has the most impact/influence

Classification

- Internal/External – high power/low power – high interest/low interest

Communications Plan

Stakeholder Communication Plan

Stakeholder	Level of Detail	Project Phase	How often?	Who receives updates?	Who updates the stakeholder?	Update Method

Communications Plan

- Glossary of commonly used terms
- Communication flow-charts
- Escalation paths
- Constraints – legal, technological, organisational
- Method for updating communication plan throughout project

Seriously?

- Assumptions!
- Stakeholders know what they're getting (deliverables)
- When they're getting it
- Are kept up to date on progress and issues
- Important tool for managing scope creep

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**Module 8: The Project
Plan and Scope
Statement**



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In this module

- Structuring a project plan
- The Scope Statement
- Main deliverable and key deliverables

5 Process Groups

Initiation

- Develop Project Charter
- Identify Stakeholders

Planning

- Develop Project Management Plan
- Collect Requirements
- Define Scope
- Create WBS
- Define Activities
- Sequence Activities
- Estimate Activity Resource
- Estimate Activity Duration
- Develop Schedule
- Estimate Cost
- Determine Budget
- Plan Quality
- Develop Human Resource Plan
- Plan Communications
- Plan Risk Management
- Identify Risk
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Procurement

Execution

- Direct and Manage Project Execution
- Perform Quality Assurance
- Acquire Project Team
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Monitoring & Controlling

- Monitor and Control Project Work
- Perform Integrated Change Control
- Verify Scope
- Control Scope
- Control Schedule
- Control Costs
- Perform Quality Control
- Report Performance
- Monitor and Control Risks
- Administer Procurements

Closing

- Close Project or Phase
- Close Procurements

Project Management Plan

- Requirements management plan
- Schedule management plan
- Cost management plan
- Quality management plan
- Resource management plan
- Risk management plan
- Scope statement



Scope Statement

- Specifies what the project does and doesn't include
- Scope description (higher levels of elaboration only)
- Acceptance criteria
- Project exclusions
- Project deliverable (one main deliverable)

Levels of Elaboration

- A new sub-office will be acquired and fitted.
- Fitting will include facilities for 10 staff.
- Fittings will include chairs, desks, IT equipment and office fittings.
- IT equipment will consist of one PC and phone per staff member, two printers and one photocopier.
- PC spec will be Ver. 5 Head Office specification with standard software suite

Levels of Elaboration

- 10 Cisco 5220 phone units
- 2 HP Advantage 500 printers
- 1 Xerox 2100 multifunction copier
- ...
- Deliverables – what we need to have in place to satisfy requirements

Acceptance Criteria

- Staff can log on to head office IT systems
- Staff can print locally
- Staff can phone internal extensions and external numbers
- Staff will be able to work comfortably
- Facilities Department will manage ongoing maintenance
- Acceptance criteria – what we will be able to do

Project Exclusions

- Explicitly stating what is outside the scope of the project
- Manages stakeholder expectations
- Avoids assumptions
- Reduces scope creep



The Main Deliverable

- Scope statement contains one main deliverable:

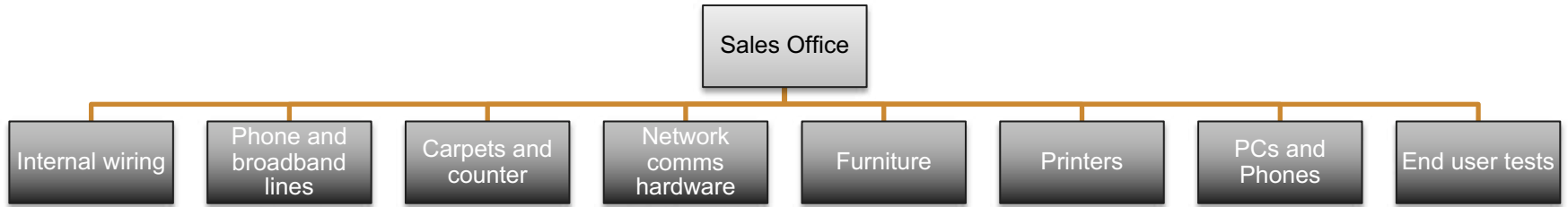
“A new sales offices”

“A wedding planning service”

“A project management training course”

- Decompose into key deliverables

Key Deliverables



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**Module 9: The Work
Breakdown Structure**



Damian McCourt

In this module

- Work breakdown structures
- Work packages and activities
- The WBS dictionary

The Main Deliverable

■ Scope statement contains one main deliverable:

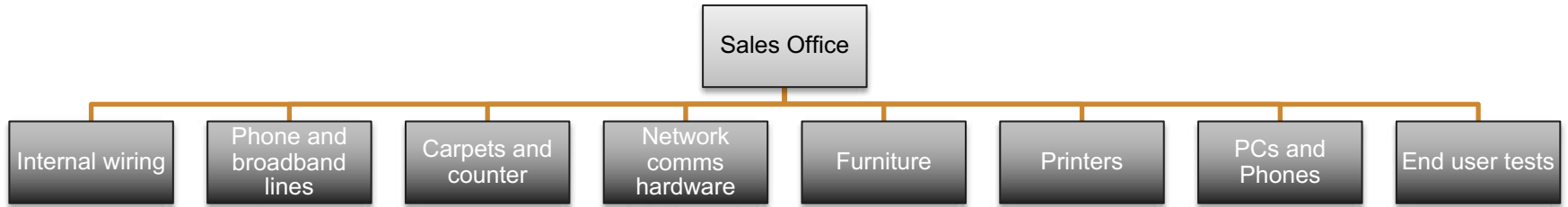
“A new sales offices”

“A wedding planning service”

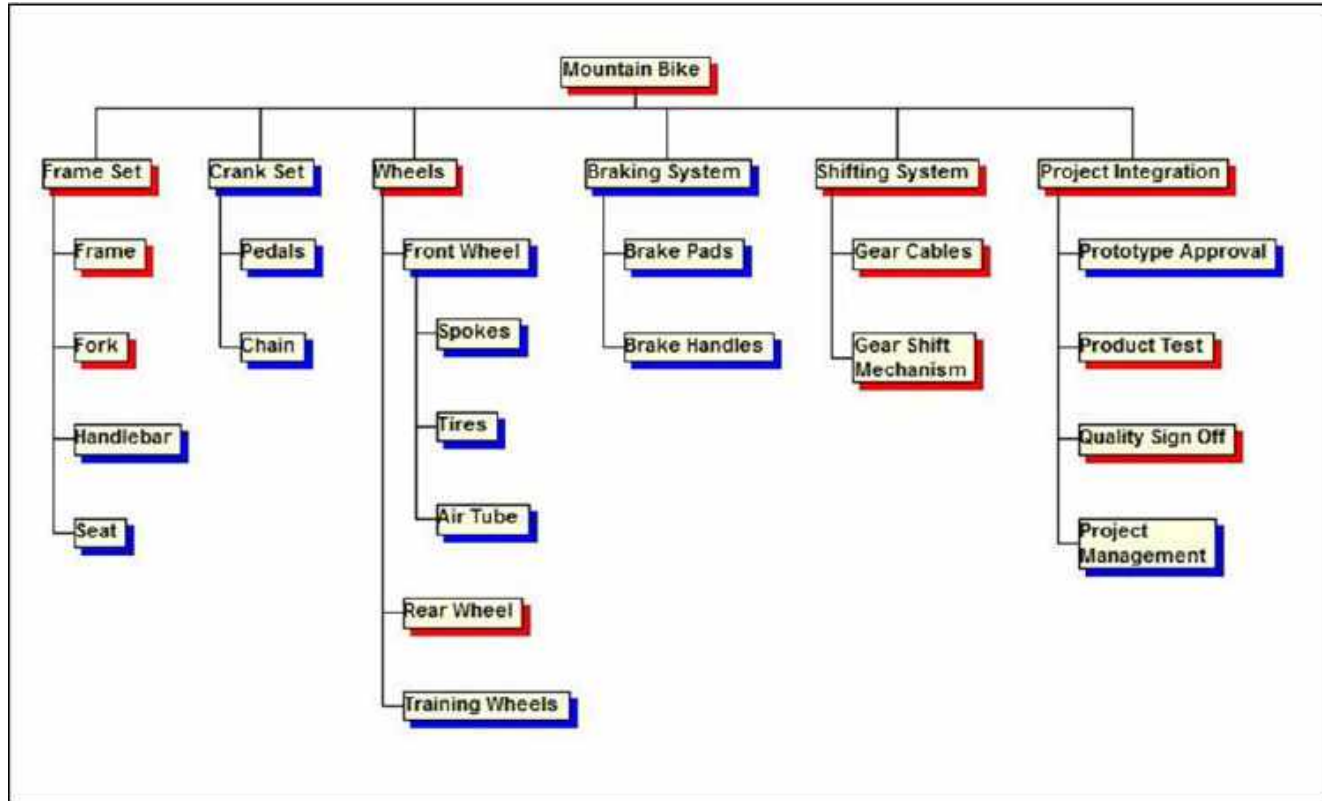
“A project management training course”

■ Decompose into key deliverables

Key Deliverables

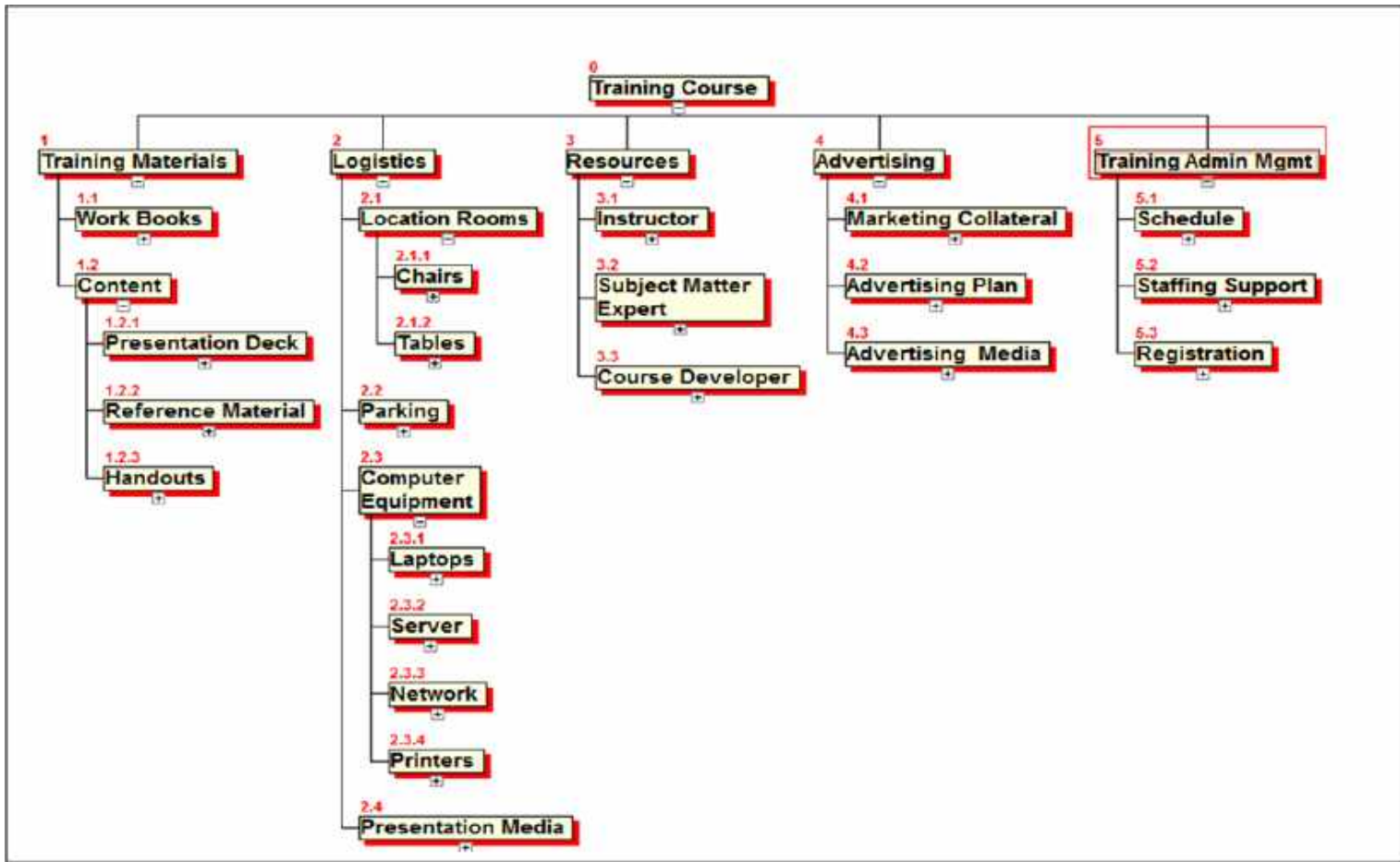


Work Breakdown Structure



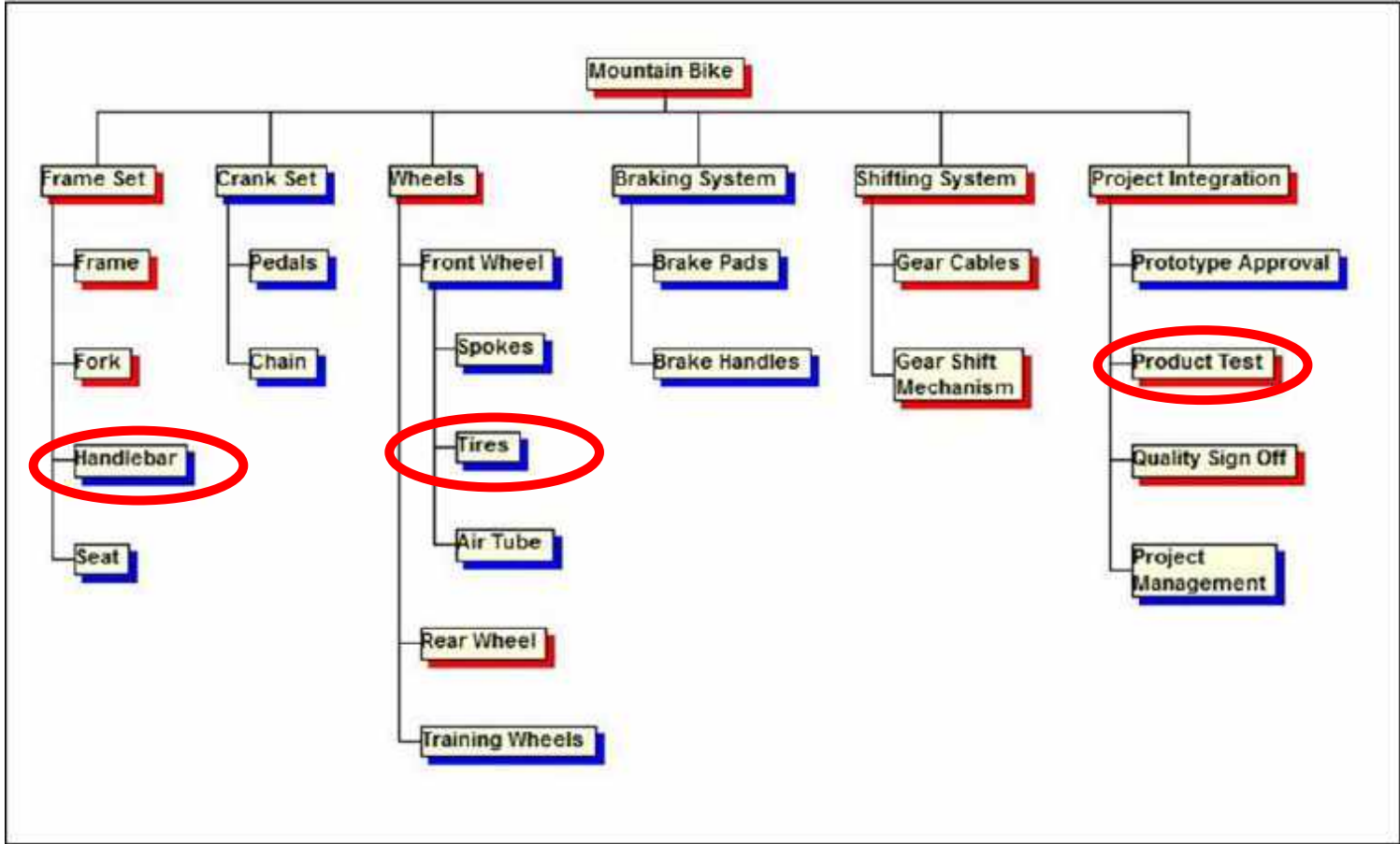
WBS Creation Rules

- Use nouns, not verbs – WBS describes deliverables
- Use a hierarchical structure
- Collaborate with the people who will produce the deliverables
- Unique deliverables in each column
- 100% Rule – each level must contain 100% of the deliverables required for the parent deliverable



WBS Benefits

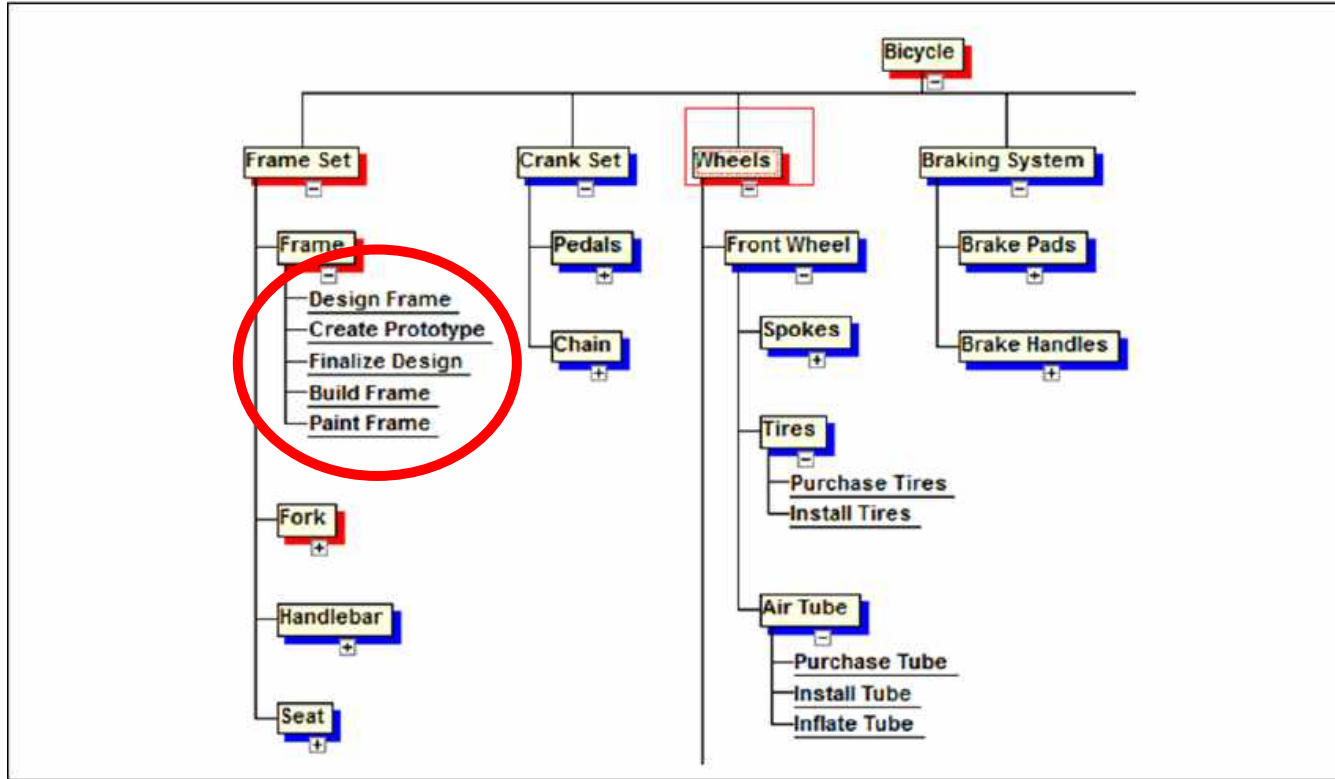
- Sets out what is going to be delivered
- Allows you to start planning the 'how' and 'when'...
- **...blueprint for schedule and budget**
- Clarity for stakeholders – 'this is what you're getting'
- Helps stakeholders to focus on deliverables rather than activities



Work Package Rules

- Individual items on the work breakdown structure
- Should be possible to accurately estimate cost and duration
- Can be managed by one person (work package owner)
- If cost & duration can't be accurately estimated...
- ...you're probably not at the work package level yet.
- Estimating tools manual p.26

Activities



Activity Rules

- Each work package consists of a list of activities
- Have an expected duration
- Consume budget and/or resources
- Used to create the project schedule and budget
- Are usually verb-noun format (build frame, test brakes)

WBS Dictionary

WBS DICTIONARY									
Project Title: _____				Date Prepared: _____					
Work Package Name:				WBS ID:					
Description of Work:									
Milestones:				Due Dates:					
1.									
2.									
3.									
ID	Activity	Resource	Labor			Material			Total Cost
			Hours	Rate	Total	Units	Cost	Total	
Quality Requirements:									
Acceptance Criteria:									
Technical Information:									
Contract Information:									

WBS Dictionary

- Detailed description of every work package in the project
- Commonly uses a template
- Standardises the information stored for each work package
- Ensures each work package is fully described and understood
- **At-a-glance information for scope change requests**

Seriously?

- That's sooo much work!
- That's what the planning phase is for
- If it's complex enough to warrant a project...
- ...it needs a work breakdown structure
- Will highlight and avoid problems in later stages
- Helps if the PMO have templates/processes in place

Project Admin Key Deliverable

- Always have an 'admin' key deliverable
- Details the deliverables the PM must produce
- Schedule, budget, project plans, communications plans
- PM's work is visible
- And any scope changes take into account the admin overhead

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**Module 10: Project
Scheduling**



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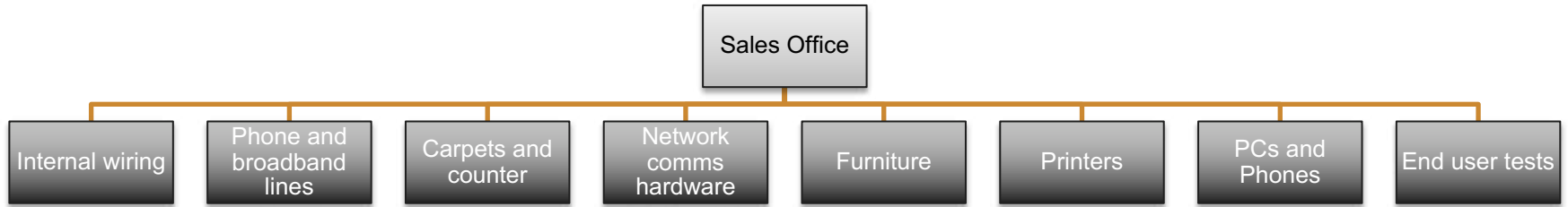
In this module

- Creating a network diagram
- Determining the project's critical path
- Work package float

How Long?

- How many days of work are there in my project?
- What work packages are dependent on others being completed?
- What work package delays will delay the entire project?
- What work packages can be delayed without delaying the entire project?
- Critical Path Analysis

Key Deliverables



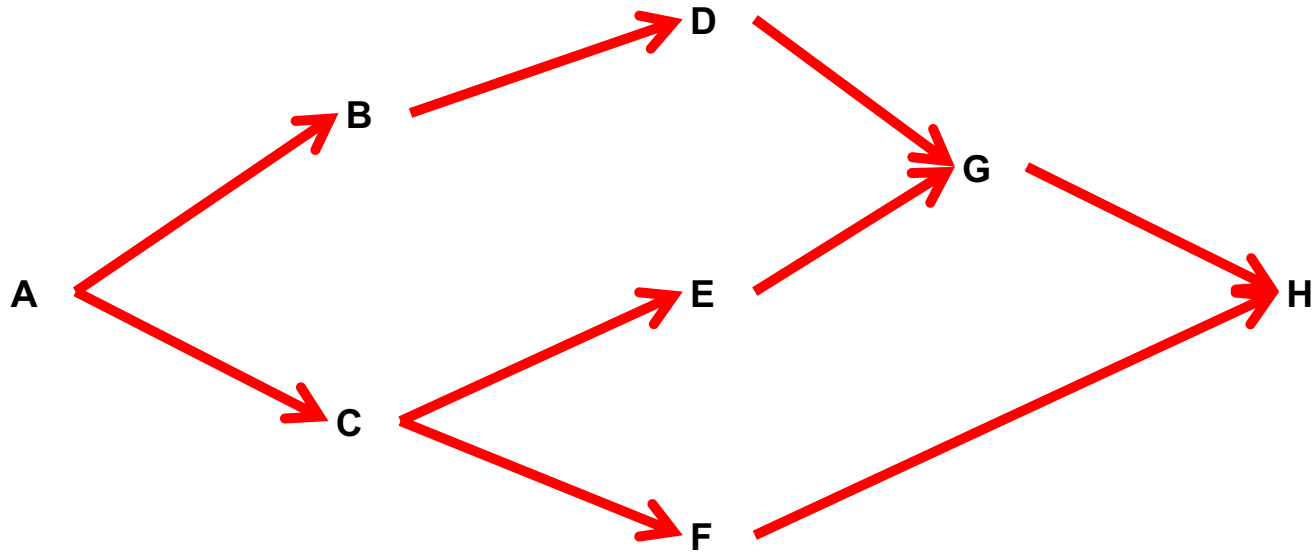
Key Deliverables

ACTIVITY	PREDECESSOR	DURATION (DAYS)
A (wiring)		3
B (comms lines)		4
C (carpets)		2
D (comms hardware)		5
E (furniture)		1
F (printers)		2
G (PCs and phones)		4
H (end-user tests)		3

Dependencies

ACTIVITY	PREDECESSOR	DURATION (DAYS)
A (wiring)	-	3
B (comms lines)	A	4
C (carpets)	A	2
D (comms hardware)	B	5
E (furniture)	C	1
F (printers)	C	2
G (PCs and phones)	D & E	4
H (end-user tests)	F & G	3

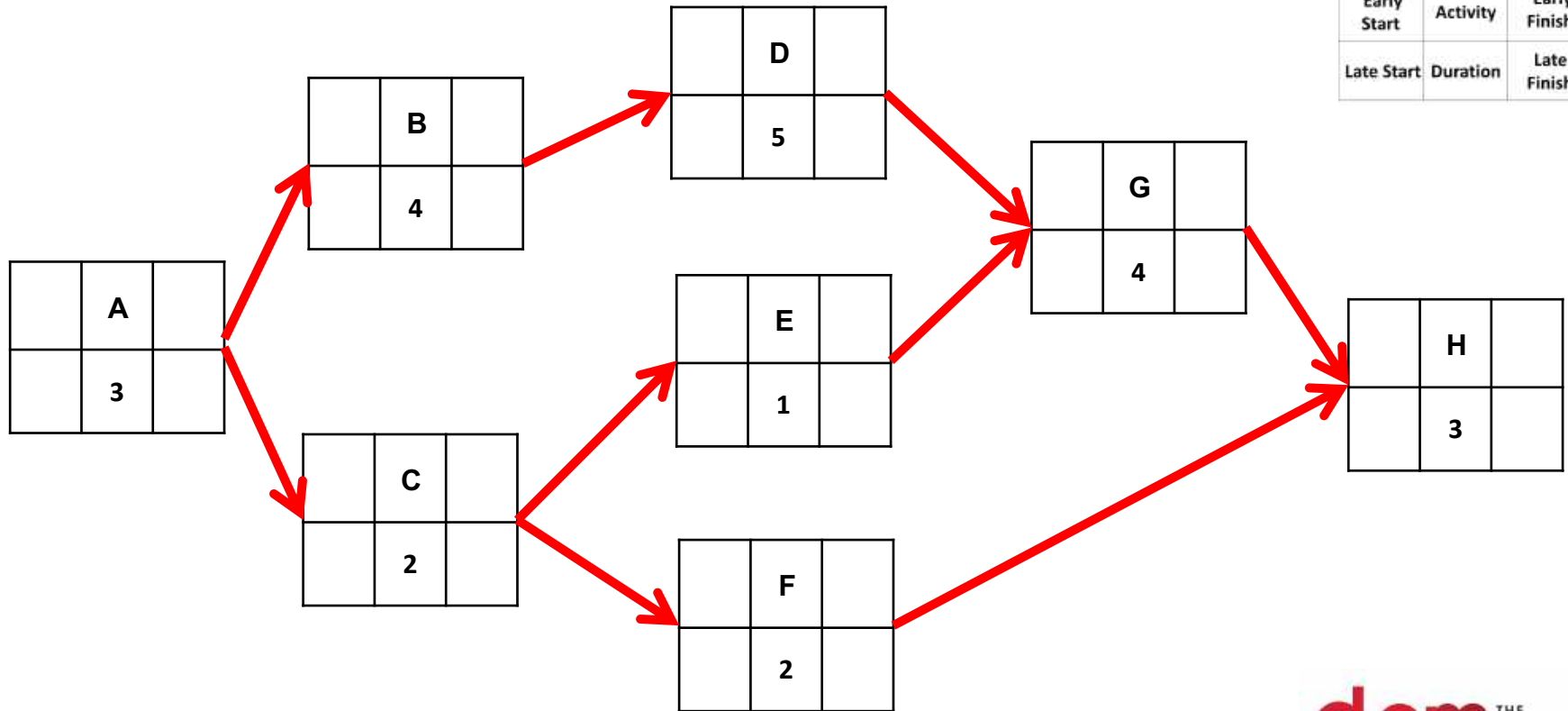
Network Diagram



Network Node

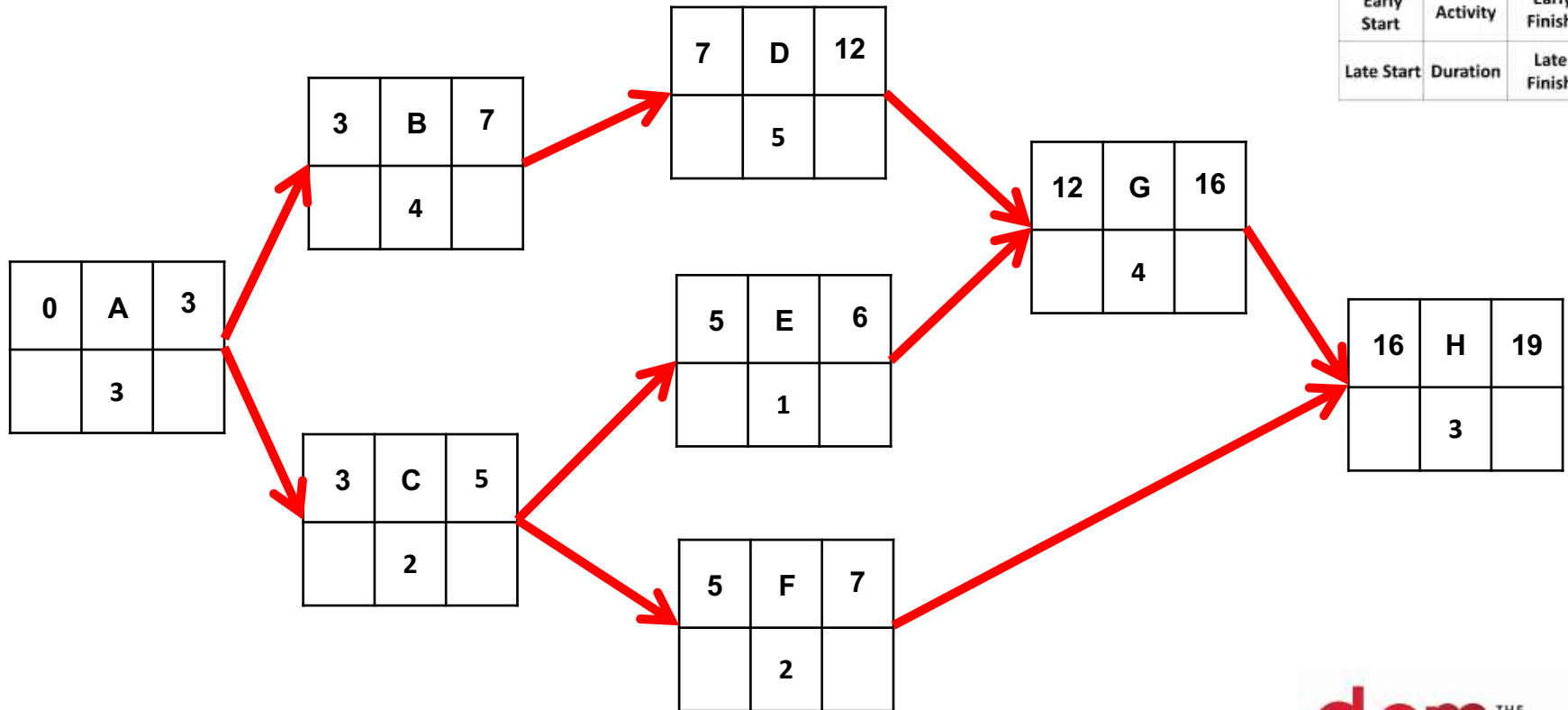
Early Start	Activity	Early Finish
Late Start	Duration	Late Finish

Network Diagram



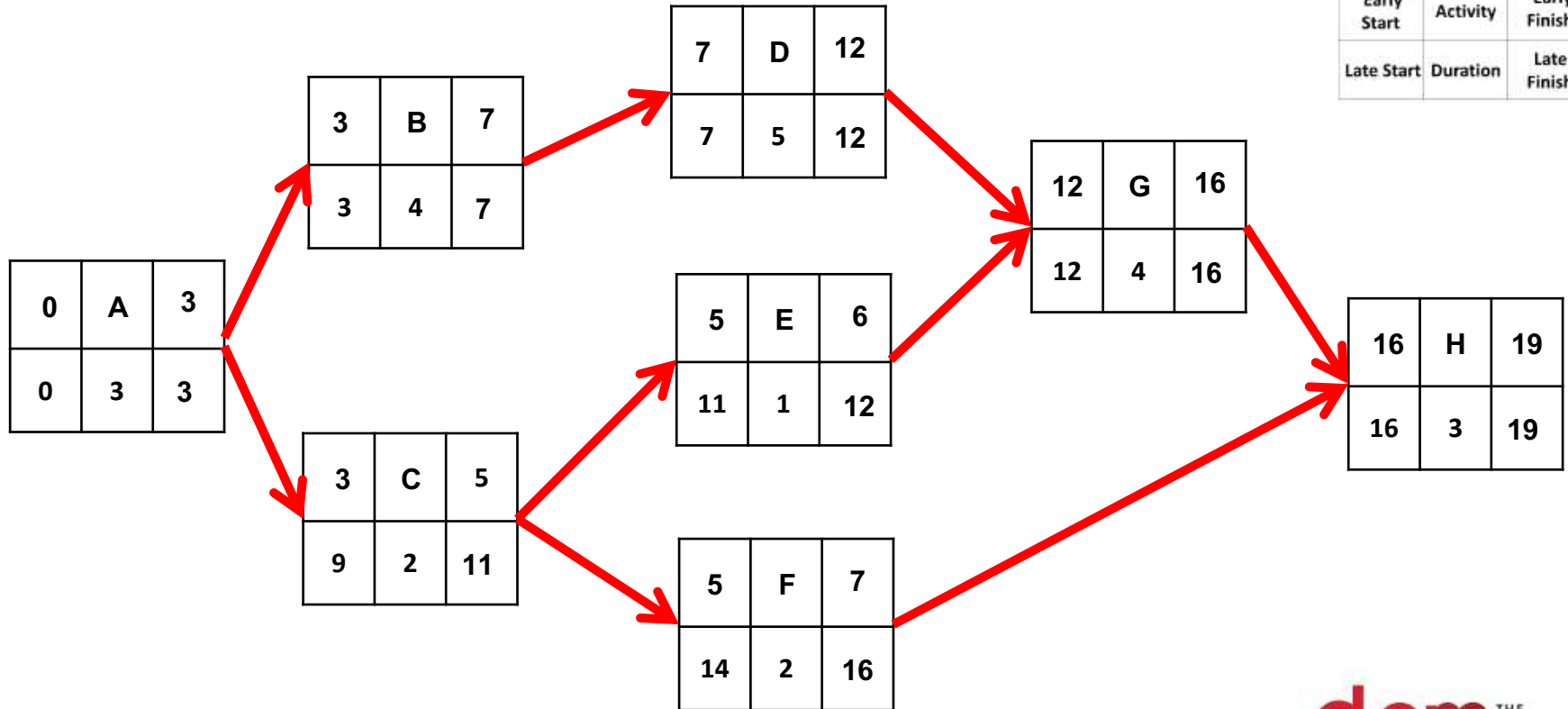
Early Start	Activity	Early Finish
Late Start	Duration	Late Finish

Network Diagram



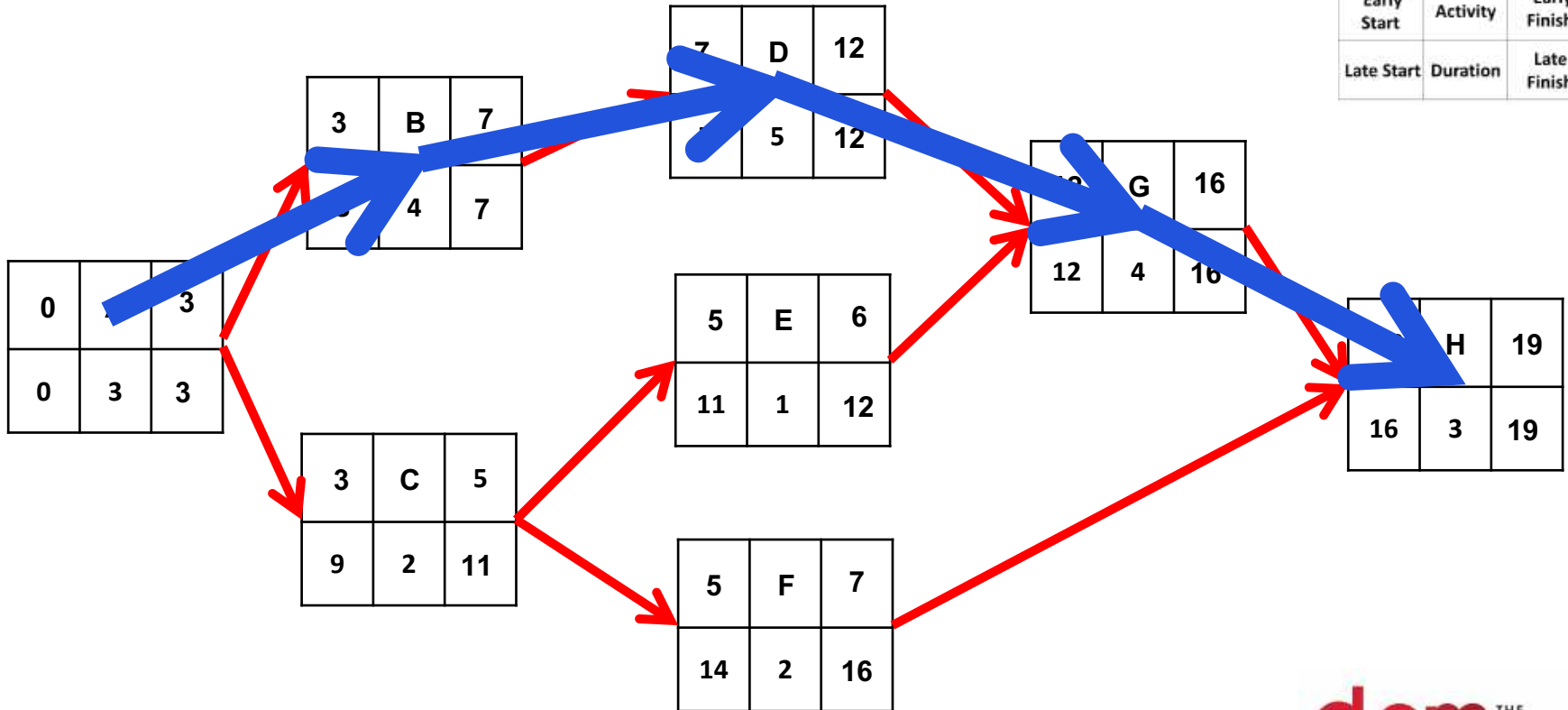
Early Start	Activity	Early Finish
Late Start	Duration	Late Finish

Network Diagram



Early Start	Activity	Early Finish
Late Start	Duration	Late Finish

Network Diagram



Early Start	Activity	Early Finish
Late Start	Duration	Late Finish

Critical Path

- If any work package on the critical path is delayed...
- The whole project is delayed
- In our example, A, B, D, G and H
- Wiring refit, comms lines, comms hardware, PCs and phones, and end-user tests
- What about the other work packages?

Float

- Also referred to as Slack
- The amount of time we can delay the start or finish of a work package
- Start Float – how long we can delay the start
- Finish Float – how long we can delay the finish

Float

Early Start	Activity	Early Finish
Late Start	Duration	Late Finish

5	F	7
14	2	16

■ Work Package E (furniture fit-out)

■ Start Float late start minus early start $14 - 5 = 9$ days

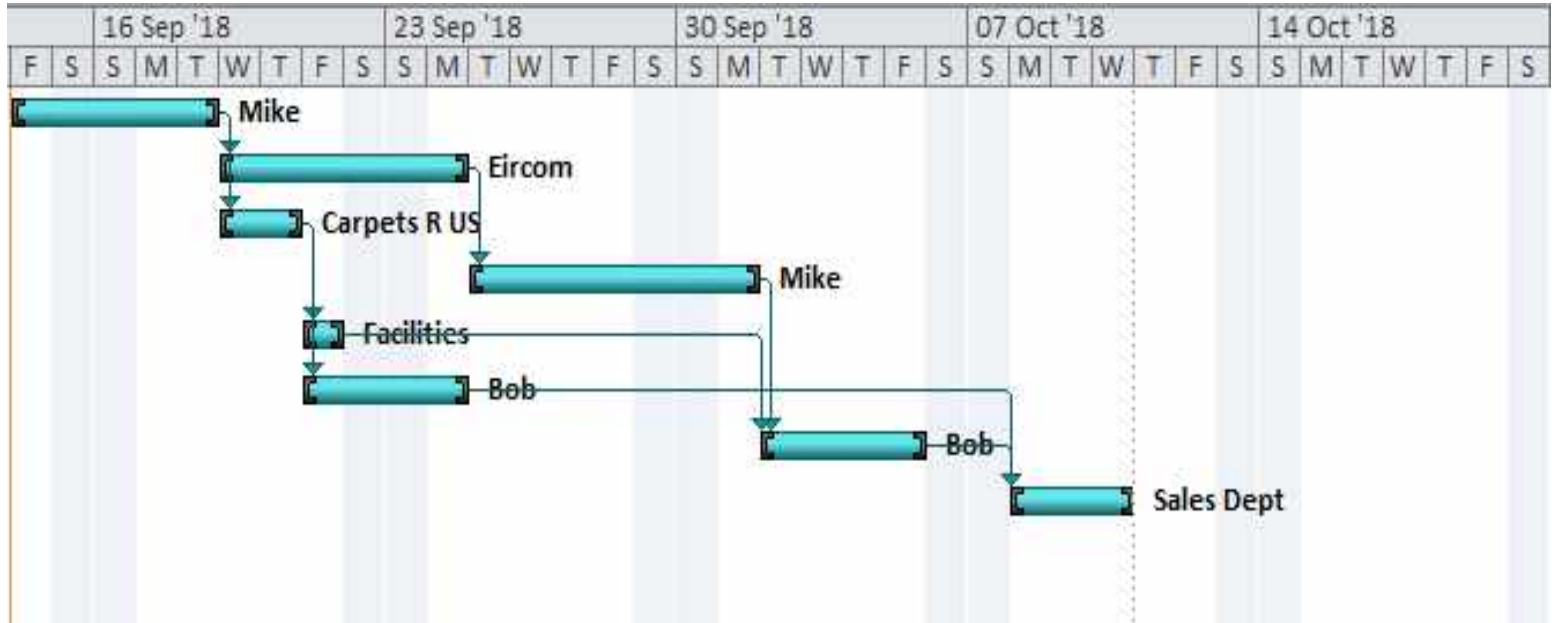
■ Finish Float late finish minus early finish $16 - 7 = 9$ days

Schedule

Task Number	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	Wiring	3 days	Fri 14/09/18	Tue 18/09/18		Mike
2	Comms Lines	4 days	Wed 19/09/18	Mon 24/09/18	1	Eircom
3	Carpets	2 days	Wed 19/09/18	Thu 20/09/18	1	Carpets R Us
4	Comms Hardware	5 days	Tue 25/09/18	Mon 01/10/18	2	Mike
5	Furniture	1 day	Fri 21/09/18	Fri 21/09/18	3	Facilities
6	Printers	2 days	Fri 21/09/18	Mon 24/09/18	3	Bob
7	PCs and Phones	4 days	Tue 02/10/18	Fri 05/10/18	4,5	Bob
8	End-User Tests	3 days	Mon 08/10/18	Wed 10/10/18	6,7	Sales Dept.

■ Microsoft Project, Excel

Gantt Chart of Schedule



■ Microsoft Project, Excel

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Project Management

**Module 11: Managing
Procurement**



Damian McCourt

In this module

- Planning procurement
- Make or buy analysis
- Statement of Work
- Contract types

Procurement Planning

■ PMBOK:

“The processes necessary to purchase or acquire products, services, or results needed from outside the project team”

■ Legal agreements – contract, service level agreement, memorandum of understanding

■ Organisational approval and sign-off

Procurement Planning

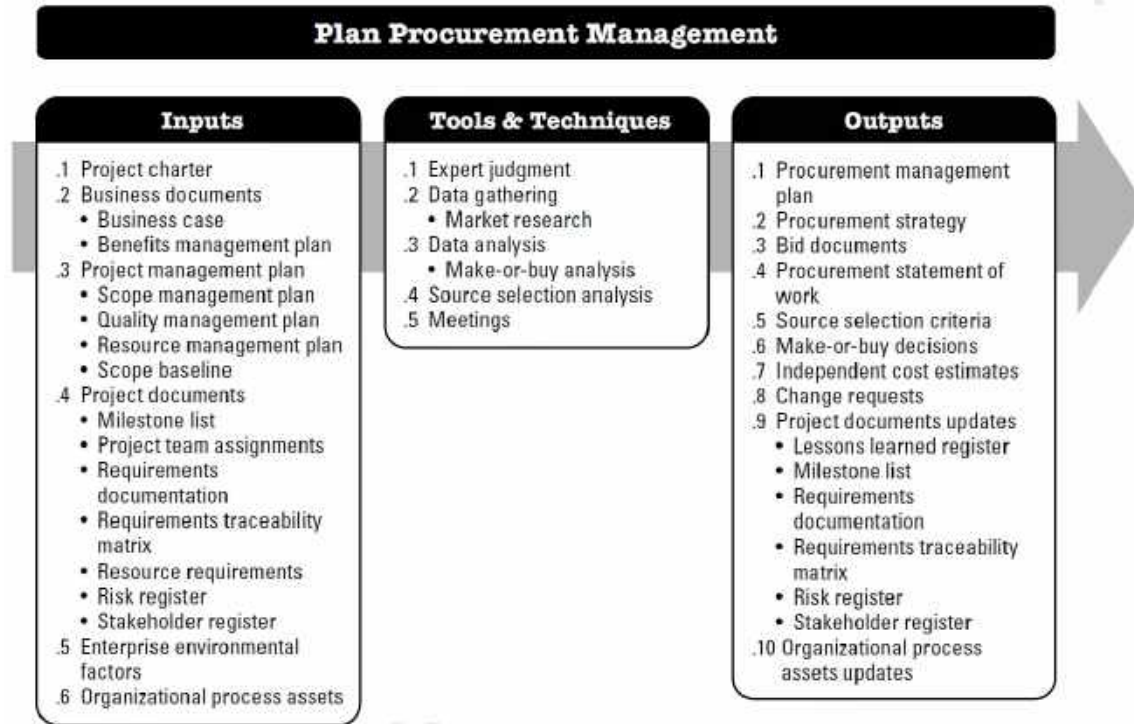


Figure 12-2. Plan Procurement Management: Inputs, Tools & Techniques, and Outputs

Procurement Management Plan

- Coordination with other project aspects
- Timetable of procurement activities
- Metrics used to measure contracts
- Stakeholder roles and responsibilities regarding procurement
- Procurement restraints and assumptions
- Legal jurisdiction to apply and payment currency
- Risk management issues – performance bonds or insurance contracts
- Prequalified seller procedures

Outputs

- Make or Buy Analysis
- Statement of Work
- Supplier Selection Criteria
- Type of contract
- ...

Make or Buy Analysis

- Involves:
- Figuring out if procurement is the preferred option
- Direct and indirect costs
- Purchase vs. lease
- Cost risk

Make or Buy Analysis

- Direct cost – purchase cost of the product or service
- Indirect cost
- Support or maintenance costs (software support, machinery maintenance)
- Training costs (software packages, specialist machinery)
- Risk cost – the cost of dealing with faulty or non-conforming components: replacement, re-procurement delays, lawsuits (airbags).

Make or Buy Analysis

- Purchase vs. Lease
- If buy decision is made, do we buy outright
- Up-front costs, capital considerations, maintenance and upgrade plans, disposal costs
- Or lease:
- On-going cost, support may be included, upgrade path may be included
- Contract considerations
- Stability of company we're leasing from

Make or Buy Analysis

- Cost Risk

- the risk that the actual final cost of the component may differ from what the initial budgeted cost is for that component

- i.e. the uncertainty regarding final cost if a buy decision is made

- Very common issue in project management...

- ...and why getting the contract type right is so important

Make or Buy Analysis

Carillion collapse exposed government outsourcing flaws - report

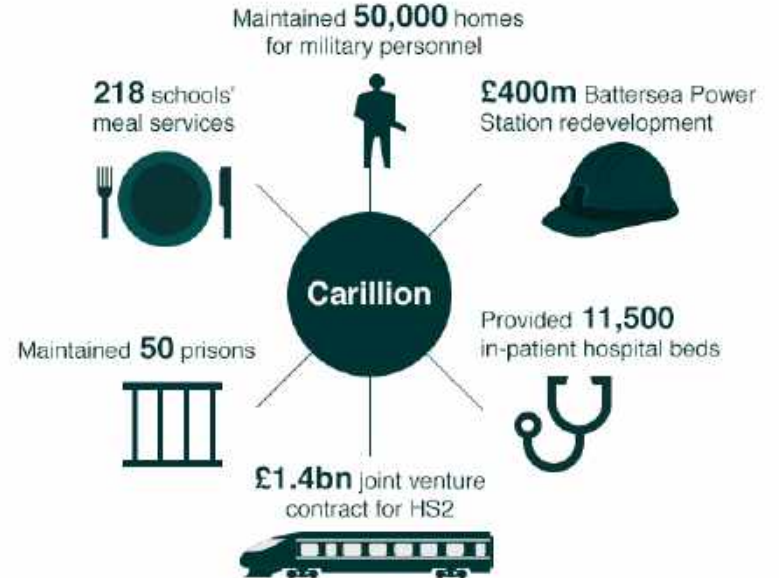
Contractors forced to take unacceptable levels of financial risk, says Commons committee



▲ Carillion was one of the biggest corporate collapses in years. Photograph: Daniel Sorabj/AFP/Getty Images

The folly of using contractors to drive down the cost of providing public services has been exposed by the collapse of Carillion, an official report has shown.

What did Carillion do?



UK examples

Source: Carillion

BBC

Statement of Work

- Given to prospective suppliers
- Provides enough information to allow the supplier to decide if they can provide the product
- Performance – what we want to be able to do
- Function – what the product/system will do
- Design – how the product/system will achieve this
- Work breakdown structure enables an accurate SOW

Supplier Selection

- Capability and capacity
- Product cost and life cycle cost
- Delivery dates
- Technical expertise and approach
- Specific relevant experience
- Staff qualifications, availability, competence
- Financial stability of the supplier
- Management experience
- Adequacy of the proposed approach in responding to the SOW

Contract Types

- Fixed Price
- Cost Reimbursement
- Time and Materials

Fixed Price

- contract that has a predetermined-set price for a specific product or service
- if the vendor completes the product or service as defined in the contract, they will receive the agreed to price
- Used with a very well defined scope
- Fixed Price Incentive Fee – fixed, but with bonus for extra performance
- Fixed Price with Economic Price Adjustment – where supply costs can vary over time (some building contracts)

Cost Reimbursement

- Supplier can charge for all legitimate expenses related to completing the product or service, as well as charge a fixed fee as profit for their work
- Higher risk for the buyer
- Used with uncertain scope or new product type
- Costs plus fixed fee – protects the supplier
- Costs plus incentives fee – rewards the supplier
- ...

Time and Materials

- cross between fixed-price and cost-reimbursable
- buyer will pay the seller for all time and material it takes to complete the product or service, within reason
- buyer agrees to pay for all legitimate expenses, but usually...
- ...buyer sets firm parameters on expenses upfront
- Provision of the product will be subject to a limit of €...

Procurement Exercise

- Office PCs
- Make or buy?
- Statement of work
- Supplier selection criteria
- Contract type?



Recap

- Procurement – managing suppliers and purchasing
- Make or buy?
- Selection criteria?
- Contract type?
- Getting this wrong often makes or breaks a project

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Project Management

**Module 12: Cost
Planning and Analysis**



Damian McCourt

In this module

- Estimating tools
- Budget creation
- Budget control

How much?

- A budget is a detailed estimation of costs
- Only possible with a completed WBS and Schedule
- The more detailed the both of these are...
- ...the more accurate the cost estimates

Five Estimating Rules - 1

- Level of Detail Rule
- The smaller or more precise the unit of work being estimated, the more accurate the estimate
- Detailed work breakdown structure = accurate budget

Five Estimating Rules - 2

- Cooperation Rule
- Resource who will perform the work and manager who will provide the resource should approve the estimates
- Ensures buy-in and co-operation
- Estimates far more likely to be accurate - familiarity

Five Estimating Rules - 3

- Compromise Rule
- There will always be a trade-off between time, cost and scope
- If not, quality will suffer



Five Estimating Rules - 4

- Consideration Rule

- People are not 100% productive 100% of the time. Always add a buffer for non-productive demands (sick leave, error correction, administrative overhead)

- Part-time project staff in particular

Five Estimating Rules - 5

■ Consistency Rule

- The same people will always provide consistent estimates.

Some people will always underestimate, others will consistently over-estimate. Experience over time is the only way to judge this.

Resource Planning

- Team resources (people!)
- Remember to include yourself as PM!
- Materials and supplies
- Equipment - number of units
- Service agreements costs, procurement contract costs
- List of all the resources required to complete the project

Cost Estimating

- Estimating the cost of each resource
- People – hourly rate from HR (not just salary – includes all overheads)
- Equipment costs per unit
- Materials and supply costs
- ...
- Combine with Schedule and WBS to create a budget estimate

Budget Creation

	A	B	C	D	E	F	G	H	I	J
1										
2			Labour			Materials				
3			Resource	Hours	€/Hour	Materials	Units	€/Unit	Projected Cost	
4	Work Package	Pinters							€3,693.75	
5	Activity	Source supplier	Mike	3	€25.00				€75.00	
6	Activity	Order printers	Purchasing	1	€18.75	Xerox 2050 Printer	2	€1,750.00	€3,518.75	
7	Activity	Connect and configure	Mike	4	€25.00				€100.00	
8										
9										
10										
11										

- Broken down by work package and activities
- Work packages generally grouped by project phase

Cost Management Plan

- Part of project management plan
- Define units of measure for each resource (staff hours, quantity measures etc.)
- Levels of precision (round to the nearest €1,000 for example)
- Levels of accuracy (+/- % in estimates, contingency amounts)
- Control thresholds (percentage or amount cost can vary from estimates before action must be taken)
- Rules of performance measurement
- Additional details – funding choices, currency exchange, cost recording

Cost Management Plan

- Define the points in the WBS at which control accounts will be performed
- Control accounts – actual costs incurred vs. estimated costs, % variance
- Take action if % variance exceeds that set out in the control thresholds

Recap

- Accurate budgets depend very much on accurate work breakdown structures
- Five estimating rules – with team and stakeholders!
- Budget grouped by work package – change control!
- Planned review points and actions

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Project Management

Module 13: Scope Creep



Damian McCourt

In this module

- Progress review
- Exploring scope creep
- Scope management

Progress review

- Scope management and scope creep
- Controlling change
- Controlling quality
- Controlling risk
- Assigning responsibilities

Top 4 project failure causes

- Poor or incomplete requirements
- **Scope creep**
- A lack of a structured project management methodology
- **Lack of change control**

Scope Management?

- Project exclusions – part of scope statement...
- ...which is part of the project charter
- Explicitly stating what is outside the scope of the project
- Manages stakeholder expectations
- Avoids assumptions

Scope Management?

- Work breakdown structure
- Any change can be described in terms of:
 - Changes to work package activities
 - Changes to key deliverables
- Makes costing changes very straightforward

Scope Creep



- The *uncontrolled* expansion to product or project scope without adjustments to time, cost or resources

Scope Creep



- Berlin Brandenburg Airport
- Stakeholder-driven
- Communications planning
- <http://calleam.com/WTPF/>

Scope Creep



- Scope *always* changes
- PM job to manage it...
- ...not to prevent it

Scope Creep

- Market changes
- Competitor actions
- Advances in technology
- Financial changes
- Requirements clarifications
- Business case still valid?

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Project Management

**Module 14:
Managing Change**



Damian McCourt

In this module

- Change management plan
- Change control board
- Change documentation

Change management plan

- Project Management Plan > Change Management Plan
- Establishes the Change Control Board
- Documents the extent of its authority
- Describes how the Change Control System will be implemented
- Templates for change requests, status reports, change log

Change request

- Formal proposal to modify any deliverable or document
- Corrective action: to realign project work with the project management plan
- Preventative action: to ensure future project work aligns with the project management plan
- Defect repair: modify a non-conforming product, component or system
- Updates: to controlled project documents

Change control board

- Input - written requests for change by stakeholders
- CCB can consist of PM, sponsor, SMEs (defined in project management plan)
- CCB evaluates and approves, defers, or reject changes
- Record and communicate such decisions
- Output feeds into communications plan

Change control board

- Assessment of proposed change:
- The Scope – does this change deliverables?
- The Triple Constraints – will it increase cost, add time or change quality?
- Risk – does it increase the severity or likelihood of an identified risk, or does it introduce a new risk?

Documenting Change

- Change control form details of proposed change
- Change status report summary of implement change
- Change log list of all approved changes

CHANGE REQUEST TEMPLATE

PROJECT NAME			CHANGE REQUEST NO.
PROJECT MGR.			
CHANGE REQUEST			
REQUESTOR NAME		DATE OF REQUEST	
REQUESTOR CONTACT		PRIORITY	
ITEM TO BE CHANGED			
CHANGE DESCRIPTION			
PREDICTED TIMELINE		ESTIMATED COSTS	
CHANGE EVALUATION			
EVALUATOR NAME		DATE OF EVAL	
EXPECTED OUTCOME			
WORK REQUIRED			
AREA OF IMPACT	IMPACT DESCRIPTION	IMPACT LEVEL	
SCOPE			
SCHEDULE			
COST			
QUALITY			
CHANGE REVIEW / APPROVAL			
REVIEWER NAME		STATUS	ACCEPTED / REJECTED
REVIEWER SIGNATURE		DATE OF REVIEW	
ADDITIONAL COMMENTS			
CHANGE TRACKING			
TRACKING AGENT		LAST UPDATED	
TRACKING AGENT SIGNATURE		VERSION NUMBER	0.0.0
ADDITIONAL COMMENTS			

Change Request Form

Project Change Request Template

Project Name		Change Number	
Requested By		Date of Request	
Presented To			
Change Name			

Description of Change:

--

Reason for Change:

--

Effect on Deliverables (including a list of any affected deliverables):

--

Effect on Organization:

--

Effect on Schedule (including Estimated Completion Date for this change):

--

Effect on Project Cost:

Item Description	Hours		Dollars	
	Reduction	Increase	Reduction	Increase
Analysis		0		\$ 0.00

Change Request Form

Change status report

- Results of the change control process
- Was the change implemented?
- If not, what were the reasons?
- What was the impact on time/cost/quality?
- Which project documents were updated?

Change log

- Change at a glance
- Change number
- Date requested
- Brief description
- Decision
- Impact – scheduling, budget, quality

Change log

Change Number	Date	Description	Effect of Change			Communicated
			Cost	Time	Other	

Change management

- Unmanaged changes
- Your WBS, schedule, budget no longer reflect reality
- Change and human nature
- Change and non-technical project managers

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Project Management

**Module 15: Managing
and Assuring Quality**



Damian McCourt

In this module

- Quality Costs
- Planning Quality
- Controlling Quality
- Assuring Quality
- The Eight Quality Principles

PMI Quality Overview

Project Quality Management Overview

8.1 Plan Quality Management

- .1 Inputs
 - .1 Project charter
 - .2 Project management plan
 - .3 Project documents
 - .4 Enterprise environmental factors
 - .5 Organizational process assets
- .2 Tools & Techniques
 - .1 Expert judgement
 - .2 Data gathering
 - .3 Data analysis
 - .4 Decision making
 - .5 Data representation
 - .6 Test and inspection planning
 - .7 Meetings
- .3 Outputs
 - .1 Quality management plan
 - .2 Quality metrics
 - .3 Project management plan updates
 - .4 Project documents updates

8.2 Manage Quality

- .1 Inputs
 - .1 Project management plan
 - .2 Project documents
 - .3 Organizational process assets
- .2 Tools & Techniques
 - .1 Data gathering
 - .2 Data analysis
 - .3 Decision making
 - .4 Data representation
 - .5 Audits
 - .6 Design for X
 - .7 Problem solving
 - .8 Quality improvement methods
- .3 Outputs
 - .1 Quality reports
 - .2 Test and evaluation documents
 - .3 Change requests
 - .4 Project management plan updates
 - .5 Project documents updates

8.3 Control Quality

- .1 Inputs
 - .1 Project management plan
 - .2 Project documents
 - .3 Approved change requests
 - .4 Deliverables
 - .5 Work performance data
 - .6 Enterprise environmental factors
 - .7 Organizational process assets
- .2 Tools & Techniques
 - .1 Data gathering
 - .2 Data analysis
 - .3 Inspection
 - .4 Testing/product evaluations
 - .5 Data representation
 - .6 Meetings
- .3 Outputs
 - .1 Quality control measurements
 - .2 Verified deliverables
 - .3 Work performance information
 - .4 Change requests
 - .5 Project management plan updates
 - .6 Project documents updates

Cost of Quality

Cost of Conformance

Prevention Costs

(Build a quality product)

- Training
- Document processes
- Equipment
- Time to do it right

Appraisal Costs

(Assess the quality)

- Testing
- Destructive testing loss
- Inspections

Money spent during the project
to avoid failures

Cost of Nonconformance

Internal Failure Costs

(Failures found by the project)

- Rework
- Scrap

External Failure Costs

(Failures found by the customer)

- Liabilities
- Warranty work
- Lost business

Money spent during and after
the project **because of failures**

Cost of Quality

Approximately 63 million **Takata** air bags (priority groups 1-12) have been **recalled** because these air bags can explode when deployed, causing serious injury or even death. All vehicle owners should: Check for **Recalls** using your vehicle identification number (VIN).



www.nhtsa.gov › [equipment](#) › [takata-recall-spotlight](#) ▼

[Takata Air Bag Recall: What You Need to Know | NHTSA](#)

Cost of Quality

Analysis ⁷

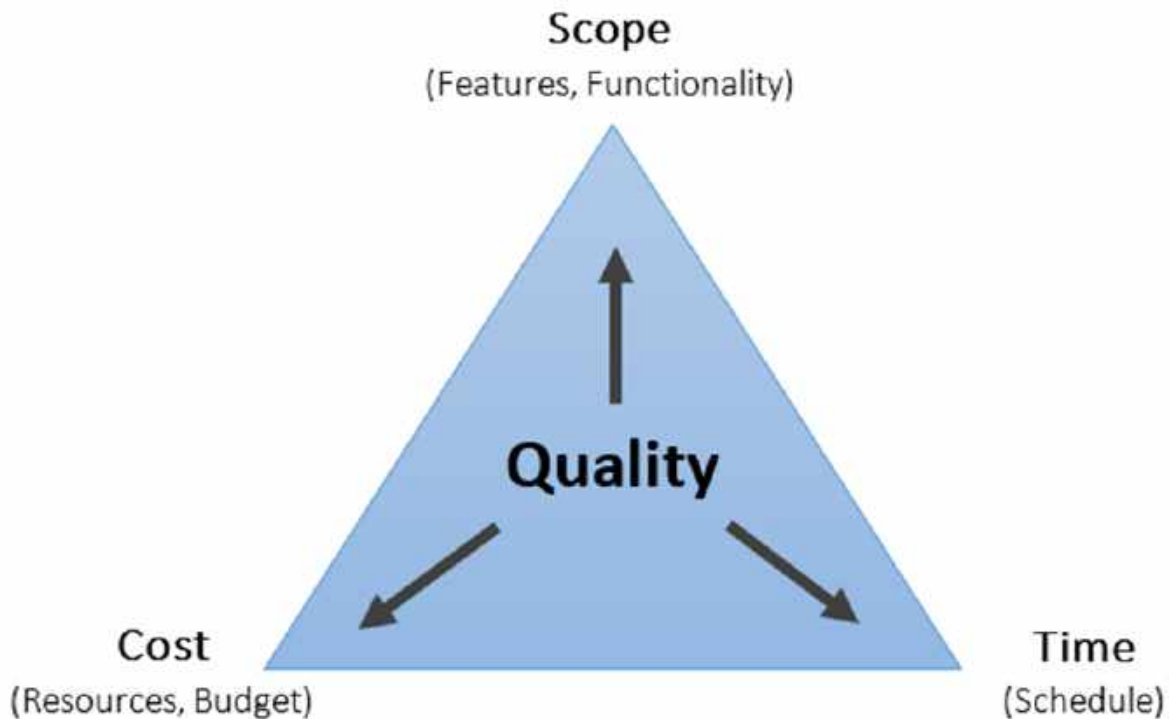
Why Boeing faces 'worst crisis' in its history

24 October 2019



Boeing remains the world's largest aerospace company by revenue, but its lead over number two Airbus shrank further on 23 October with a third quarter financial report riddled with challenges, among them tumbling revenue, the 737 Max crisis, 777X delays, a 787 production rate cut and unresolved KC-46A quality issues.

Cost of Quality



Quality Management Plan

- Defines quality standards used by the project
- Defines quality objectives – metrics
- Assigns quality roles and responsibilities
- Deliverables subject to quality review
- Planned quality management activities for the project
- Quality tools to be used
- Any major quality-relevant procedures for the project

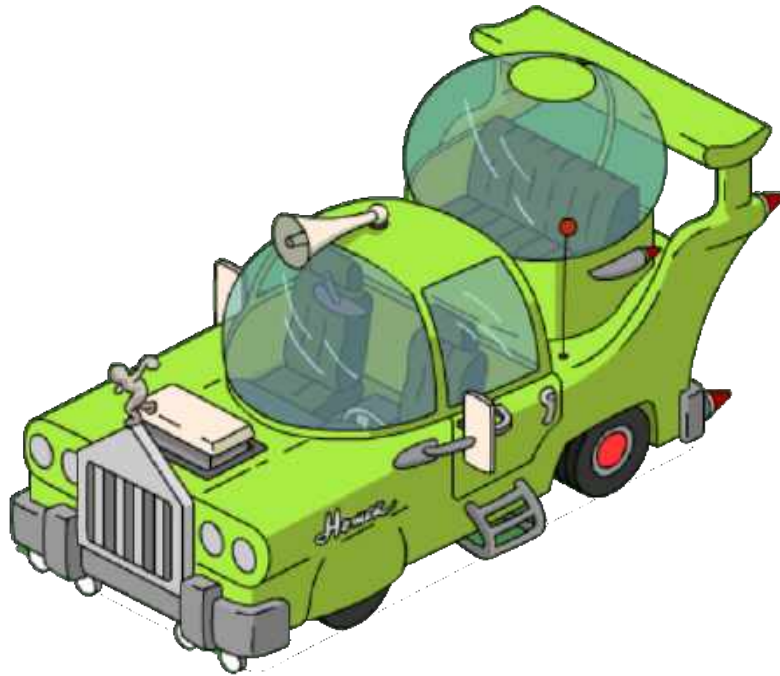
Control and Assurance

- Control quality: project activities that ensure a given level of quality has been achieved
- Quality assurance: the ability to demonstrate that quality standards have been met

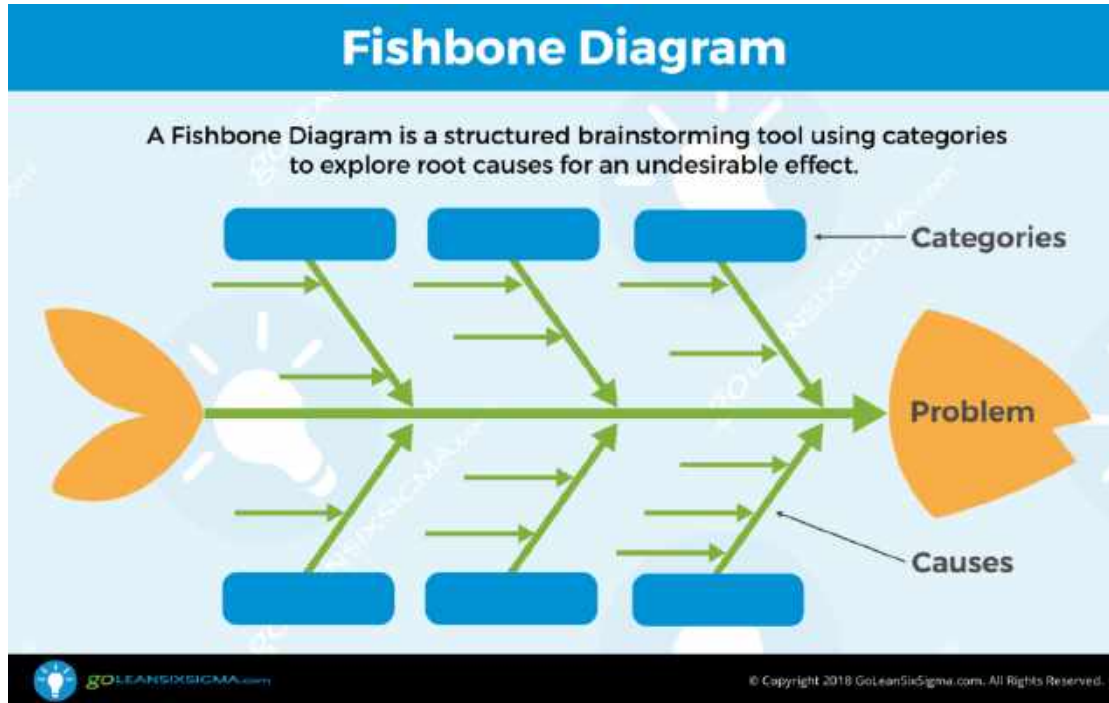
Quality Control

- Product / system testing
- Destruction testing
- Inspections / audits
- Data gathering
- Meetings

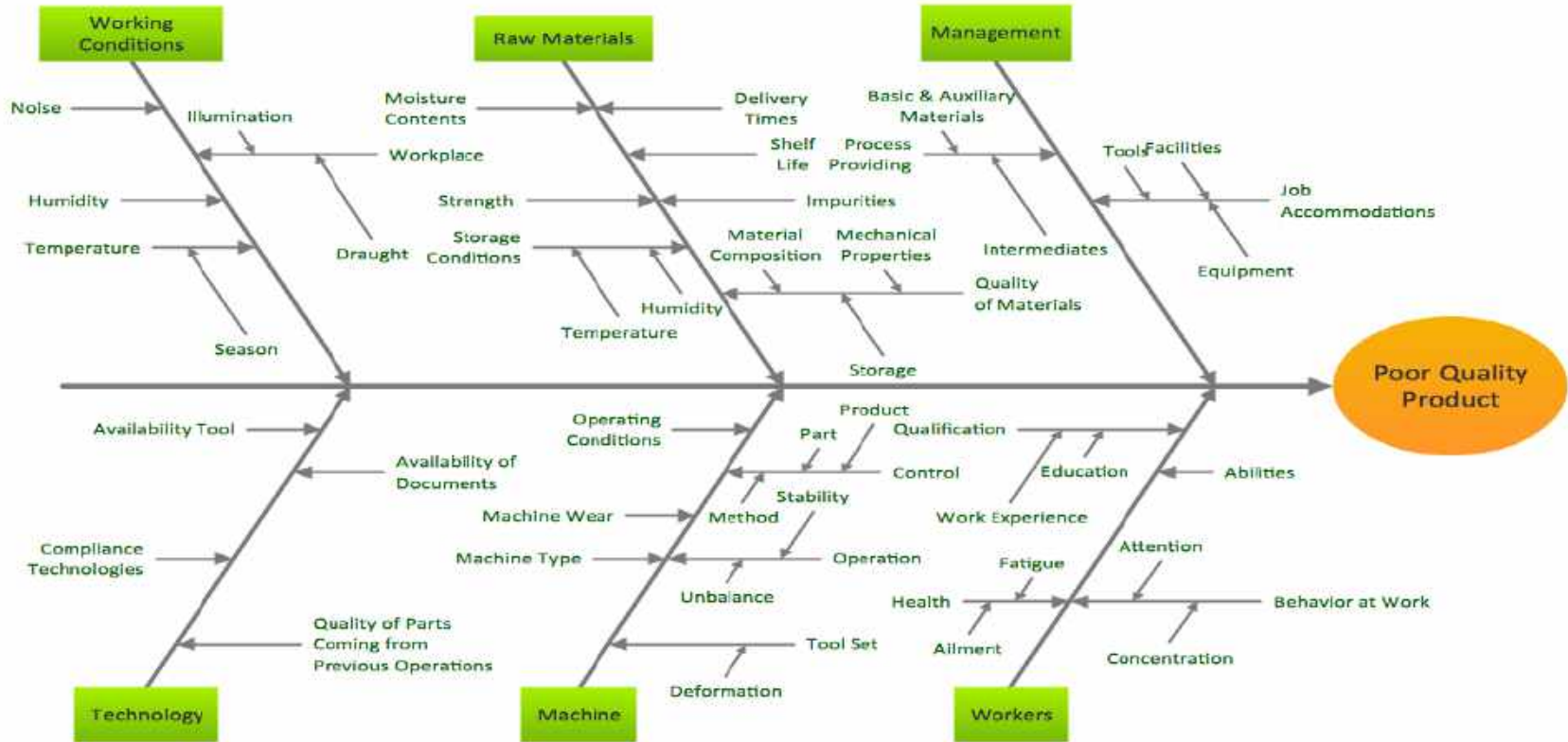
Grade vs. Quality



Quality Control Tools



Fishbone Diagram - Causes of Low-Quality Output



Motor Assembly Check Sheet

Name of Data Recorder: Lester B. Rapp
 Location: Rochester, New York
 Data Collection Dates: 1/17 - 1/23

Defect Types/ Event Occurrence	Dates							TOTAL
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
Supplied parts rusted								20
Misaligned weld								5
Improper test procedure								0
Wrong part issued								3
Film on parts								0
Voids in casting								6
Incorrect dimensions								2
Adhesive failure								0
Masking insufficient								1
Spray failure								5
TOTAL		10	13	10	5	4		



Eight Quality Principles

Quality Assurance

- Verify that quality expectations have been met
- Quality reports
- Test and evaluation reports / register
- Change control process
- Verification of deliverables – Quality Assurance testing
- Lessons learned register

Quality

- Often under-managed – to disastrous effect
- Costs often incurred after project completion
- Plan quality control activities as part of the project plan
- Assure quality through documentation and UAT

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Project Management

**Module 16:
Managing Risk**



Damian McCourt

In this module

- Defining and identifying risks
- Risk analysis methods
- Project risk response

Risk Management Plan

- How risks to the project will be identified and controlled
- How they will be recorded
- How they will be communicated
- Process for addressing risks
- Risk register template

Risk?

Project Manager:

Uncertain future events or circumstances that will impact my project. “What are the risks to the successful completion of my project?”

Project Sponsor:

Exposure to stakeholders resulting from variation in project outcomes. “How risky is this project to the organisation?”

Identifying Risks

- Lessons learned repository
- Stakeholder brainstorming sessions
- Interviews with high power/interest stakeholders
- Subject matter experts, industry knowledge
- Risk Breakdown Structure

Risk Breakdown Structure

LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3
Project risk	Management	Corporate	History/experience/culture
			Organisational stability
			Financial ...etc...
		Customer & stakeholder	History/experience/culture
	Contractual		
	Requirements definition & stability ...etc...		
	External	Natural environment	Physical environment
			Facilities/site
			Local services ...etc...
		Cultural	Political
			Legal/regulatory
			Interest groups ...etc...
Economic	Labour market		
	Labour conditions		
	Financial market ...etc...		
Technology	Requirements	Scope uncertainty	
		Conditions of use	
		Complexity ...etc...	
	Performance	Technology maturity	
		Technology limits ...etc...	
	Application	Organisational experience	
Personnel skill sets & experience			
Physical resources ...etc...			

Analyse Risks

Two ways to analyse risks:

- **Quantitative analysis:** we have to understand the concept
- **Qualitative analysis:** we have to be able to carry one out

Analyse Risks

Quantitative analysis:

- Perform Quantitative Risk Analysis uses the probability distributions to characterize the risk's probability and impact, it also use project model (e.g. schedule, cost estimate), mathematical and simulation tools to calculate the probability and impact.
- This predicts likely project outcomes in terms of money or time based on combined effects of risks, it estimates the likelihood of meeting targets and contingency needed to achieve desired level of comfort
- Used in large, complex projects to determine overall risk level

Analyse Risks

Qualitative analysis:

- Use expert knowledge to determine how likely a risk is to occur
- Use expert knowledge to determine how severe the impact would be
- Severity based on Time, Cost, Quality constraints
- Assign a likelihood value and an impact value
- Multiply the two to find the risk score
- Decide how to deal with the risk based on the risk score

Analyse Risks

	SCALE	PROBABILITY	+/- IMPACT ON OBJECTIVES		
			TIME	COST	PERFORMANCE
5	VHI	71–99%	>6 months	>\$5M	Very significant impact on overall functionality
4	HI	51–70%	3–6 months	\$1M–\$5M	Significant impact on overall functionality
3	MED	31–50%	1–3 months	\$501K–\$1M	Some impact in key functional areas
2	LO	11–30%	1–4 weeks	\$100K–\$500K	Minor impact on overall functionality
1	VLO	1–10%	<1 week	<\$100K	Minor impact on secondary functions
0	NIL	<1%	No change	No change	No change in functionality

Analyse Risks

Qualitative analysis example:

<u>Risk Register</u>										
No	Risk	Probability	Impact	Risk Score	Strategy	Responsible	Time Limit	Owner	Description	PM Sign
1	Not enough hardware	1	5	5	Avoid – check and buy more hardware	Support department	before 31/11/2016	PM of the project	Additional RAM is needed to eliminate performance issue	Peter Dunn
2	Junior DB developers	5	4	20	Transfer – Hire external senior developer	DB Department	Before 06/08/2016	Technical Manager	Our DB devs are not good enough to implement current requirement	Peter Dunn

Risk Response

AVOID

Use: when you want to be sure that the negative risk is not encountered

PMBOK: “Risk avoidance is a risk response strategy whereby the project team acts to eliminate the threat or protect the project from its impact”

Example: There’s a high risk of lightning strike by building a flagpole at the top of the mountain, but it can be avoided by building it elsewhere, so you relocate it and avoid it.

Risk Response

TRANSFER

Use: Give the risk to someone else, like an insurance company

PMBOK: “Risk transference is a risk response strategy whereby the project team shifts the impact of a threat to a third party, together with ownership of the response”

Example: You take out theft cover on the construction plant on your project site

Risk Response

MITIGATE

Use: Try to ensure that the risk doesn't happen

PMBOK: "Risk mitigation is a risk response strategy whereby the project team act to reduce the probability of occurrence or impact of a risk"

Example: You send the project team on a conflict resolution and negotiating course to mitigate the risk of communications problems with stakeholders

Risk Response

ACCEPT

Use: Accept the risk when you can, or when you have no choice

PMBOK: “Risk acceptance is a risk response strategy whereby the project team decides to acknowledge the risk and not take any action unless the risk occurs”

Example: Low impact, low probability risks, like the risk of losing a minor supplier where several alternative suppliers exist

Positive Risk

An uncertain helpful future event

Exploit: Plan to take maximum advantage of the positive risk

Enhance Try to ensure that the positive risk occurs

Share: Get a third party involved to make the most of the opportunity

Accept: Take advantage if it happens, but don't pursue it

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Project Management

**Module 17:
Managing Compliance**



Damian McCourt

In this module

- What is compliance management?
- Compliance and project management
- GDPR project-specific responsibilities

Compliance?

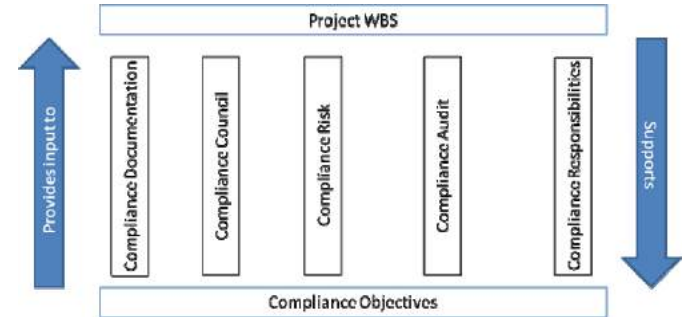
- Government regulations
- Industry standards
- Health and safety, personal data
- Building regulations, financial laws
- Food and pharmaceuticals

Compliance Management Plan

- How compliance issues will be identified and controlled
- Compliance responsibilities
- Auditing compliance
- Documenting compliance
- Compliance risks

Compliance Management

- Stakeholder identification
- Integration into work breakdown structure
- Links with quality testing and assurance
- And risk identification and control



GDPR and Project Management

- Privacy as a fundamental design concept
- Organisations should embed data privacy into their operational processes
- “Appropriate technical and organisational measures”
- Pseudonymisation – renaming of data fields
- Data minimisation – by default collecting only directly relevant data
- Security fundamental to database design

GDPR and Project Management

Implement appropriate technical and organisational measures to ensure that:

- Data is processed only for the specific purpose it was obtained
- Access to the data is controlled and limited
- Retrieval, erasure and portability measures are included

GDPR and Project Management

Google hit with €50m fine for data privacy breach

Levy is first use of GDPR introduced last year

© Mon, Jan 21, 2019, 16:04



Under the GDPR, EU regulators have the power to fine companies as much as €20 million or 4 per cent of their annual turnover – whichever is largest.



Google has been fined €50 million for breaking EU privacy laws in the first case of a US tech giant being caught under Europe's tough new data



protection rules.

GDPR and Project Management

- Very severe penalties from data protection issues arising from design flaws
- Data protection officer as a stakeholder
- High power, low interest?

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Project Management

**Module 18:
Responsibility
Assignment**



Damian McCourt

In this module

- Visual tools for assigning responsibilities
- Clarifying communications management plan
- RACI Matrix

Responsible

- The person responsible for the work required to complete the task

Accountable

- The person answerable for the correct and thorough completion of the task.

Consulted

- Subject matter experts whose opinion is sought regarding the task

Informed

- The people kept up to date on task progress and completion

RACI Matrix

- One or more Responsible (name or job title)
- Generally only one Accountable
- Consulted – from communications plan
- Informed – from communications plan
- Sometimes Q included – Quality reviewer

RACI Matrix

Responsibility Assignment Matrix - RACI Chart

	Jeff	Michael	Reto	YOU	Alex	Anna	Bill	Cindy	Felix	Fred	Hans	John	Livio	Luc	Marco	Paul	Peter	Sue	Ted	Tim	
Planning / Schedule	R	A	I	C					C												Q
Risk Management		I	I	Q						A									R		
Quality Management			R	C						R											A
Procurement				R		Q				R									R		A
1. Specifications Listing								A		R									R		R
2. Site Requirements		C	A	R	Q						R										
3. Call for Tenders				Q	A	R	C				R								R		
4. Budget Approval				A	Q					R								R			R
5. Contract Negotiations			A		Q	R	R												R		

* R – Responsible (works on), A – Accountable, C – Consulted, I – Informed, Q – Quality Reviewer

RACI Matrix

ROLE Project Deliverable (or Activity)	Project Leadership					Project Team Members				Project Sub-Teams				External Resources						
	Executive Sponsor	Project Sponsor	Steering Committee	Advisory Committee	Role #5	Project Manager	Tech Lead	Functional Lead	SME	Project Team Member	Developer	Administrative Support	Business Analyst	Role #4	Role #5	Consultant	PMO	Role #3	Role #4	
Initiate Phase Activities																				
Request Review by PMO	A/C	R/A				R/A	A/C		C											
Submit Project Request						R											A			
Research Solution	I					R/A	A/C	A/C	C				C				C			
Develop Business Case	I	A/C	I	I		R/A	C	C	C				C			C	C			
Plan Phase Activities																				
Create Project Charter	C	C				R/A	C	C	C				C				C			
Create Schedule	I	I	I	I		R/A	C	C	C	C	C	C	C				C	I		
Create Additional Plans as Required	I	I	I			R/A				I	I	I	I				C	I		
Execute Phase Activities																				
Build Deliverables	C/I	C/I	C/I	C/I			R/A	R/A	R/A	R/A	R/A						A/C			
Create Status Report	I	I	I	I		R/A	R/A	R/A	R/A								C	I		
Control Phase Activities																				
Perform Change Management			C	C	C		R	A	A	A							C	I		
Close Phase Activities																				
Create Lessons Learned	C	C	C	C		R/A	C	C	C	C	C	C	C				C	C		
Create Project Closure Report	I	I	I	I		R/A	I	I	I	I	I	I	I				I			

RACI Matrix

- Highlights dependencies on key staff
- Opportunities for training and development
- Validation of stakeholder identification exercise
- Reminder to carry out quality control and assurance

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**Module 19: Closing
The Project**



Damian McCourt

In this module

- Completion criteria: PM, customer, organisation
- Project handover
- Documentation
- Lessons learned

Are we done yet?



Completion - Customer

- Product or service delivered
- Outstanding issues resolved
- Documentation handed over
- Maintenance arrangements in place
- Formal acceptance by customer

Completion – PM

- Costs charged to the project
- Project accounts closed
- Staff re-assigned
- Project resources re-allocated
- Documentation completed

Completion – Organisation

- Project final report
- Lessons learned exercise
- Knowledge sharing and transfer
- Measuring stakeholder satisfaction?

Formal Handover

- Formal handover process / meeting
- Quality review
- Training review
- Documentation review
- Maintenance / support review (especially!)

Final Report

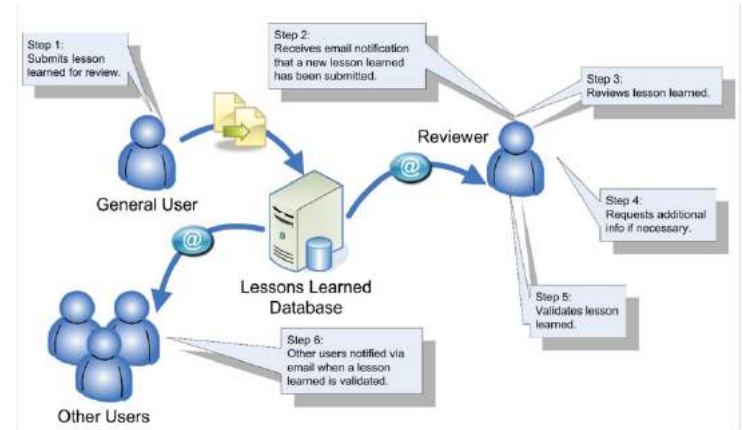
- Summary of the project
- Scope and objectives – evidence of completion criteria
- Quality, cost and schedule objectives – evidence of objectives being met, reasons for any variances.
- Summary of final product, service or result achieved *and how this met the organisation's needs*
- Summary of any risk or issues encountered and their solutions

Support Documentation

- How to operate, maintain and support the new product, system or service
- Updates to existing documents to accommodate the new system
- Maintenance agreements and contact details

Lessons Learned Repository

- Issues (and their root cause)
- Problems (and their solutions)
- New knowledge
- Notification system?



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Project Management

Module 20: Team Leadership and Management



Damian McCourt

In this module

- Leading and managing
- Situational leadership
- Team appraisal
- Identifying issues on your team

Leader or Manager

Leadership

Produces change and movement

1. Establishes direction
 - Creates a vision
 - Clarifies the big picture
 - Sets strategies
2. Aligns people
 - Communicates goals
 - Seeks commitment
 - Builds teams, coalitions and alliances
3. Motivates and inspires
 - Energizes
 - Empowers subordinates & colleagues
 - Satisfies unmet needs

Management

Produces order and consistency

1. Planning and budgeting
 - Establishes agendas
 - Sets timetable
 - Allocates resources
2. Organizing and staffing
 - Provide structure
 - Make job placements
 - Establish rules and procedures
3. Controlling and problem solving
 - Develop incentives
 - Generate creative solutions
 - Take corrective action

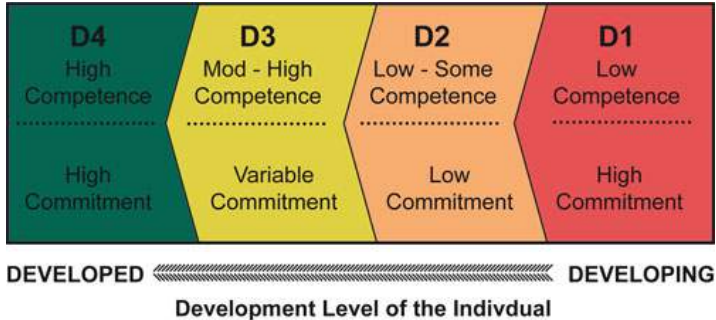
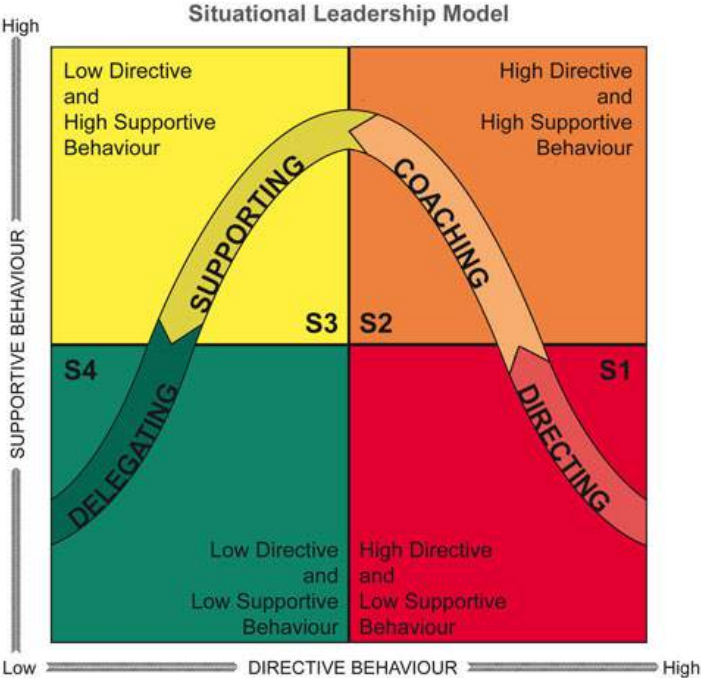
Traditional Leadership Styles

Management style	Features	Impact
Autocratic	<ul style="list-style-type: none">• Likes to retain control• Likes to tell those working under them what to do• No consultation• Subordinates are expected to obey instructions	<ul style="list-style-type: none">• Helps complete urgent tasks that need doing quickly or where there is an element of risk about the work• May lead to lack of creativity or resistance if employees have no input
Paternalistic	<ul style="list-style-type: none">• As with Autocratic, likes to take much of the responsibility for decision making but with a caring attitude for employees	<ul style="list-style-type: none">• Employees may feel valued but frustrated because there is little scope for decision making
Democratic	<ul style="list-style-type: none">• Encourages participation by employees• Shares information with team members• Provides opportunities for the team to influence decision making	<ul style="list-style-type: none">• Gains team commitment, particularly when changes need to be made• Makes decision making slower but employees are more likely to buy into/support the decisions
Laissez-faire	<ul style="list-style-type: none">• Little or no direction from the managers• Subordinates are free to make decisions	<ul style="list-style-type: none">• Useful for highly skilled, trained, expert teams• may lead to chaos without centralised control• Regular feedback and communication is required for this approach to work

Situational Leadership

- Hershey and Blanchard
- Good leaders modify their style based on the situation and the team member
- Very well suited to project management
- Leadership style questionnaire!

Situational Leadership Model



Situational Leadership Model

- To apply the situational leadership model...
- ...you need to know levels of competence and commitment for each team member
- Team appraisal tools

Skills Audit

- What can each team member do?
- Informal chat
- Team-based introductions
- Skill appraisal process

KSA



Belbin Team Roles: Summary

Thinking-Oriented Roles

Plant: innovators & ideas. Prefer to work alone.

Monitor Evaluator: Separate good ideas from bad

Specialist: skills in a specialist job

Action-Oriented Roles

Shaper: Challenge norms, take lead, push team

Implementer: Executors of plans

Completer Finisher: Complete the fine details

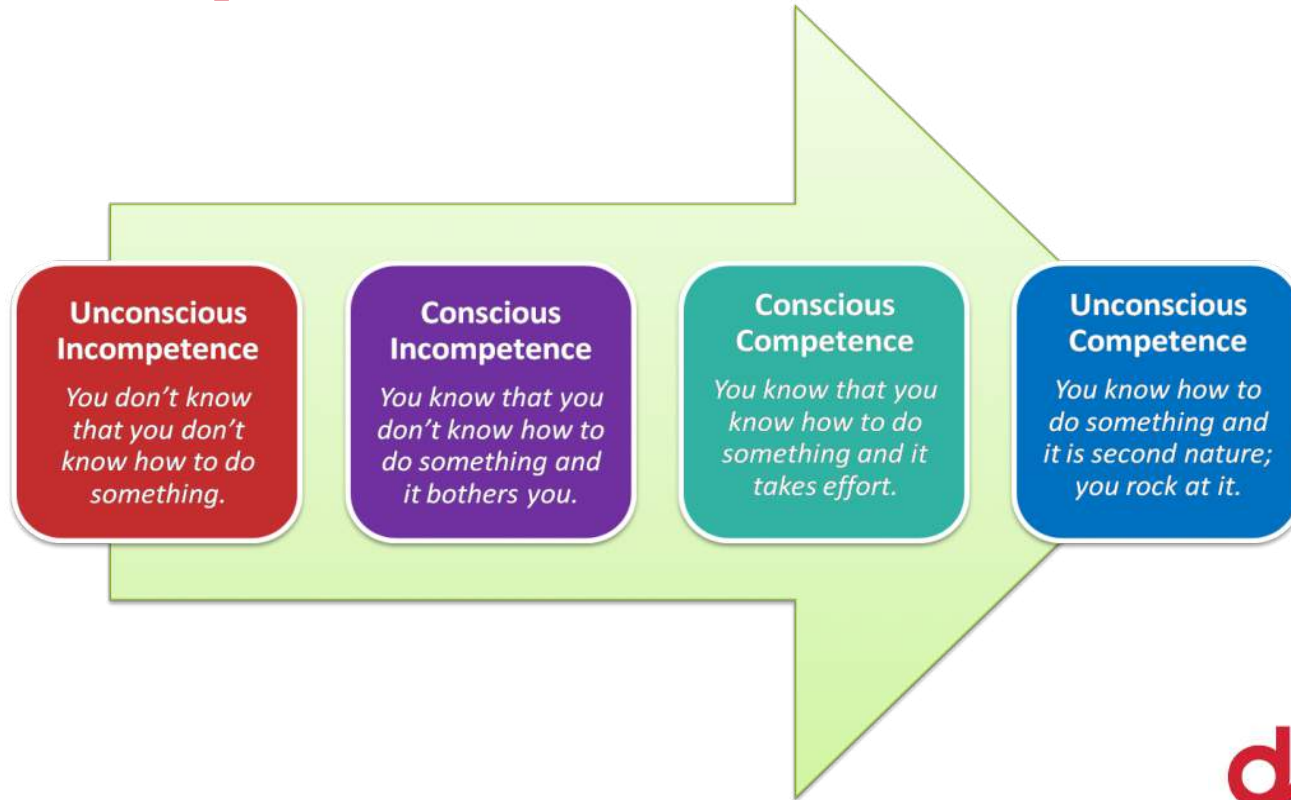
People-Oriented Roles

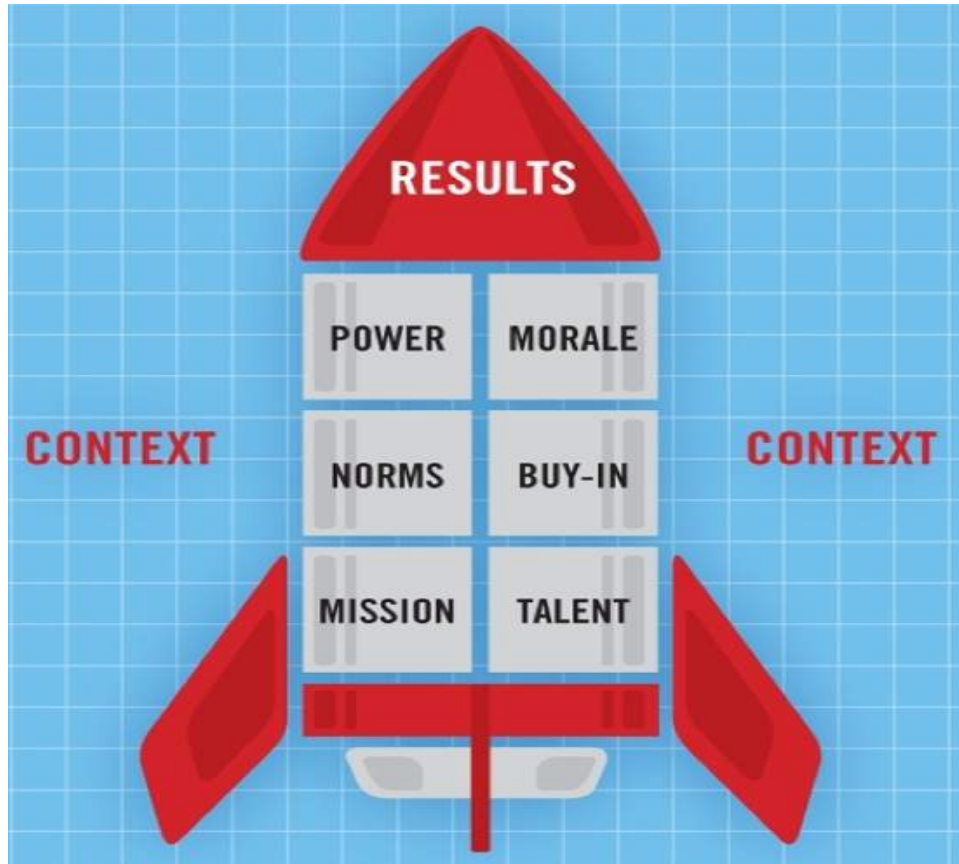
Coordinator: Natural team leaders

Team Worker: Diplomats, keep team cogs turning

Resource Investigator: find external resources

Skills Development

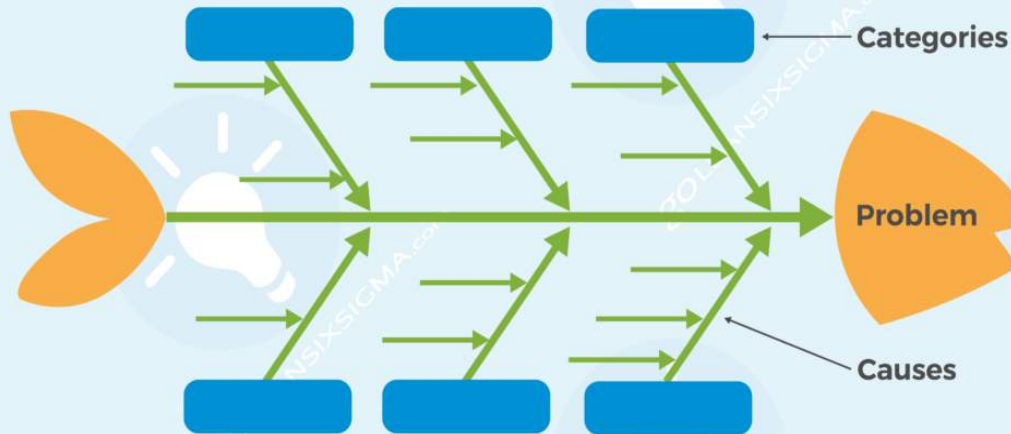




The Rocket Model

Fishbone Diagram

A Fishbone Diagram is a structured brainstorming tool using categories to explore root causes for an undesirable effect.



The Rocket Model

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Project Management

**Module 21: Team Goal
Setting and Motivation**



Damian McCourt

In this module

- Team ground rules
- SMART Goals
- Motivating and empowering your team

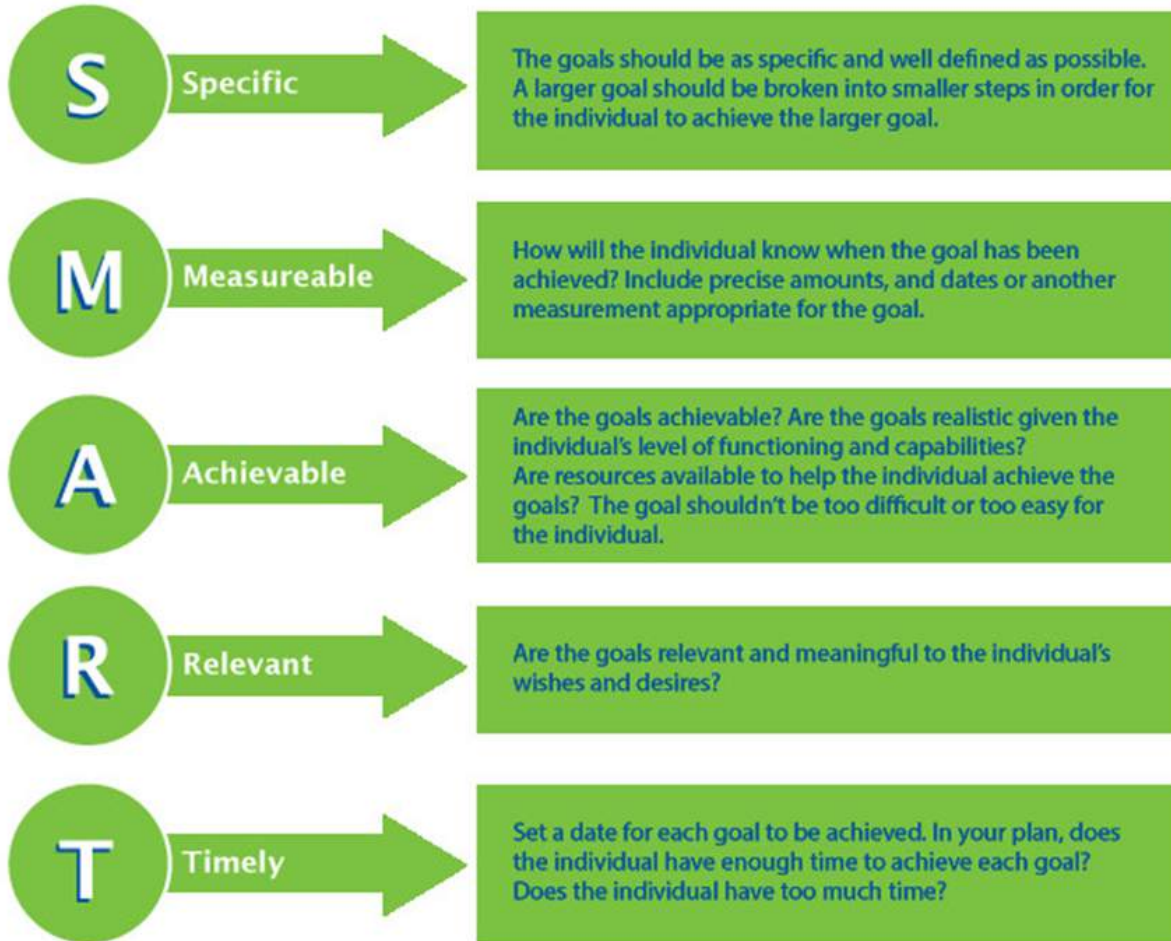
Norms and Rules

- Norms – emergent patterns of behaviour
- Not always ideal:
- Communication standards and back-channels
- Ad-hoc project changes
- Attitudes to documentation

Norms and Rules

Interpersonal norms:

- Cultural stereotyping
- Gender issues
- Expertise differences

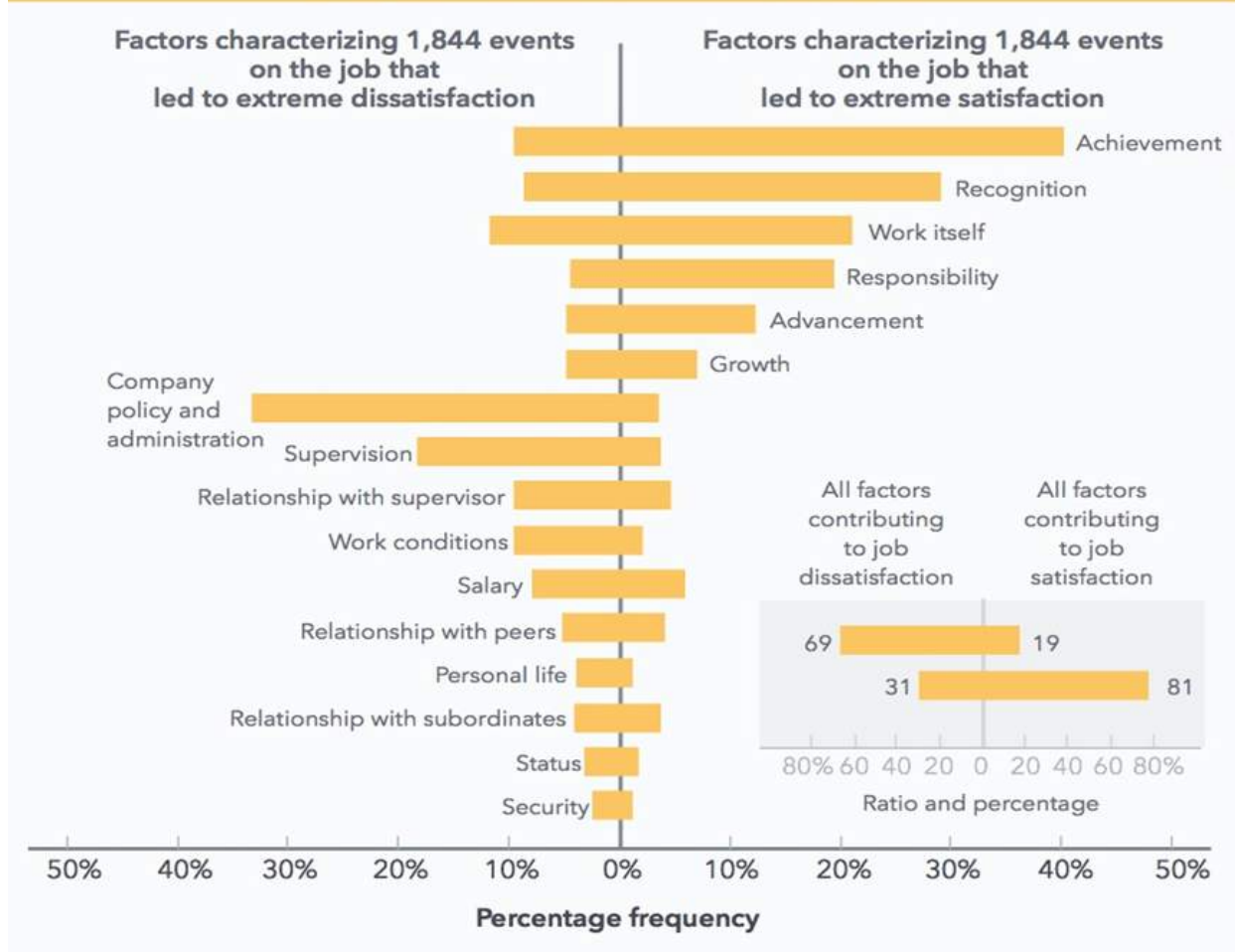


SMART Goals

Motivators and Demotivators



Comparison of Satisfiers and Dissatisfiers



Motivation?

- Give your team the tools and resources they need
- Lead and manage!
- Provide opportunities for development
- Provide recognition
- Provide responsibility

Delegation

- Team member development opportunities
- Leaves you free to manage the project
- Creates trust within the team
- Creates resilient teams

Delegation

- Use KSA to determine who to delegate to
- Delegate the whole task
- Agree review points and stick to them
- Allow for creativity
- Watch out for reverse delegation!

Reverse Delegation?

- The team member tries to give back the task
- Unease at working outside their comfort zone
- Genuinely overworked? – schedule and RACI matrix
- Allow mistakes and ask open questions

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Project Management

**Module 22:
Providing Feedback**



Damian McCourt

In this module

- The basics of team feedback
- S.A.I.D
- Us, Us, Us
- Like, Like Wish

Feedback should be...

- Timely!
- Focused on behaviours, not personalities
- Focused on solutions, not on blame

S.A.I.D

- S (Standard): What's supposed to happen
- A (Actuality): What happened in this instance
- I (Impact): What does this mean for the project?
- D (Do?): What do we need to do to fix it?
- Shared responsibility, no blame, focus on standards and what happens when they're not followed

Me, Me, Me

- This is a problem for me because...
- This is the effect it has on my work/life
- This is how it makes me feel

Us, Us, Us

- SAID work for feedback on work practices
- This is for issues arising from behaviours
- This is a problem for us because...
- This is the effect it's having us
- Time, cost, quality, scope
- The effect on morale is...

Like Like Wish

- Two success points
- Followed by one action point
- We've done really well on X and Y, I'd really like to be able to get Z over the line before the weekend

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Project Management

**Module 23:
Effective Meetings**



Damian McCourt

In this module

- The impact of ineffective meetings
- Ground rules
- Agendas and minutes
- Meeting durations
- Managing participants

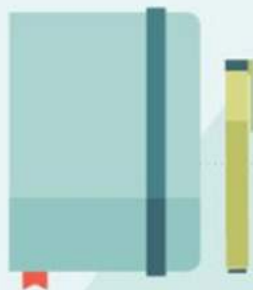
HOW MUCH TIME DO MEETINGS WASTE?



Most employees attend an

AVERAGE OF 62 MEETINGS PER MONTH.

There are more than **3 billion** meetings per year.



EXECUTIVES ON AVERAGE



SPEND 40-50%
of their working hours
in meetings.

There are more than
11 MILLION FORMAL MEETINGS
PER DAY
in the United States.

Executives average 23 hours per week in meetings
WHERE 7.8 OF THOSE HOURS
are unnecessary and poorly run,

WHICH IS EQUAL TO

over 2 months per year wasted.



Ground Rules

- Agreed with attendees at the start of the meeting
- Defines acceptable behaviours
- Sets the tone for the meeting
- Helps to keep the meeting on track
- Adapt to the attendees and the setting

Ground Rules

- Suggestions:
- No meeting without an agenda circulated beforehand
- Technology rules
- Aggressive / passive aggressive behaviours
- No ad-hoc issues – add to agenda beforehand

The Agenda

- Topic
- Issue
- Time allocated
- Owner
- Circulated *at least* one day before the meeting

Meeting Minutes

- Topic
- Issue
- Actions
- Responsibility
- Deadline
- Minute-taker summarises the meeting

Durations

- Traditional hour-long meetings
- 45 or 22 minutes
- Attention span and attitude
- Time between meetings



Managing Participants

- Ask open questions
- Around the room
- New voices
- Bottom lining
- Process observation

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