Week 7

Lecture 7.1 – Part 1

Managing Project Execution using Project Controls

GSOE9820 Engineering Project Management

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Bernard Hayes

UNSW SYDNEY

So far in this course, we've looked at:

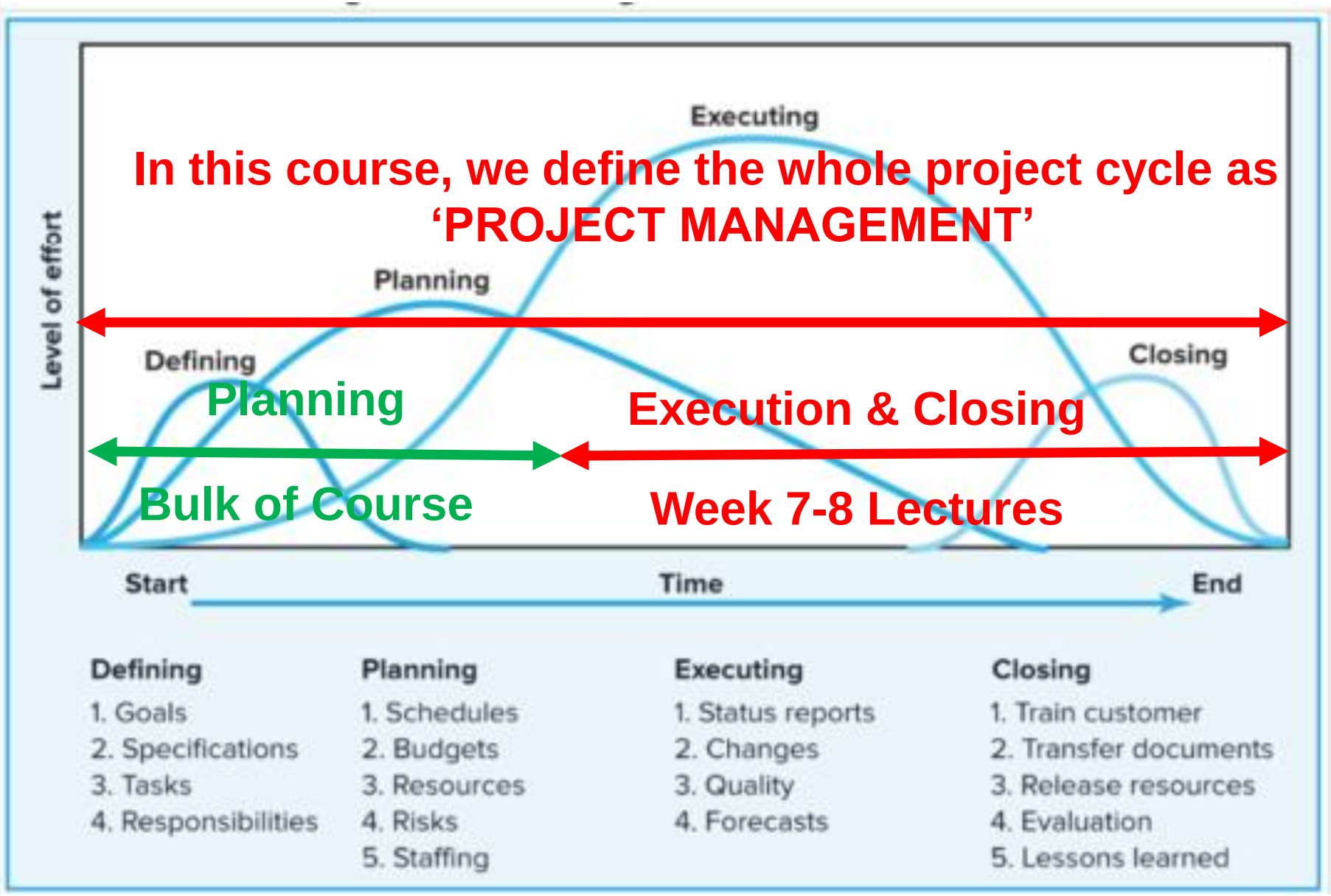
- Why organisations plan to undertake projects
- How organisations plan to undertake projects
- What tools they use to develop project plans across major areas such as budgets, schedules, risks, stakeholders etc

The PMP of Assign #2

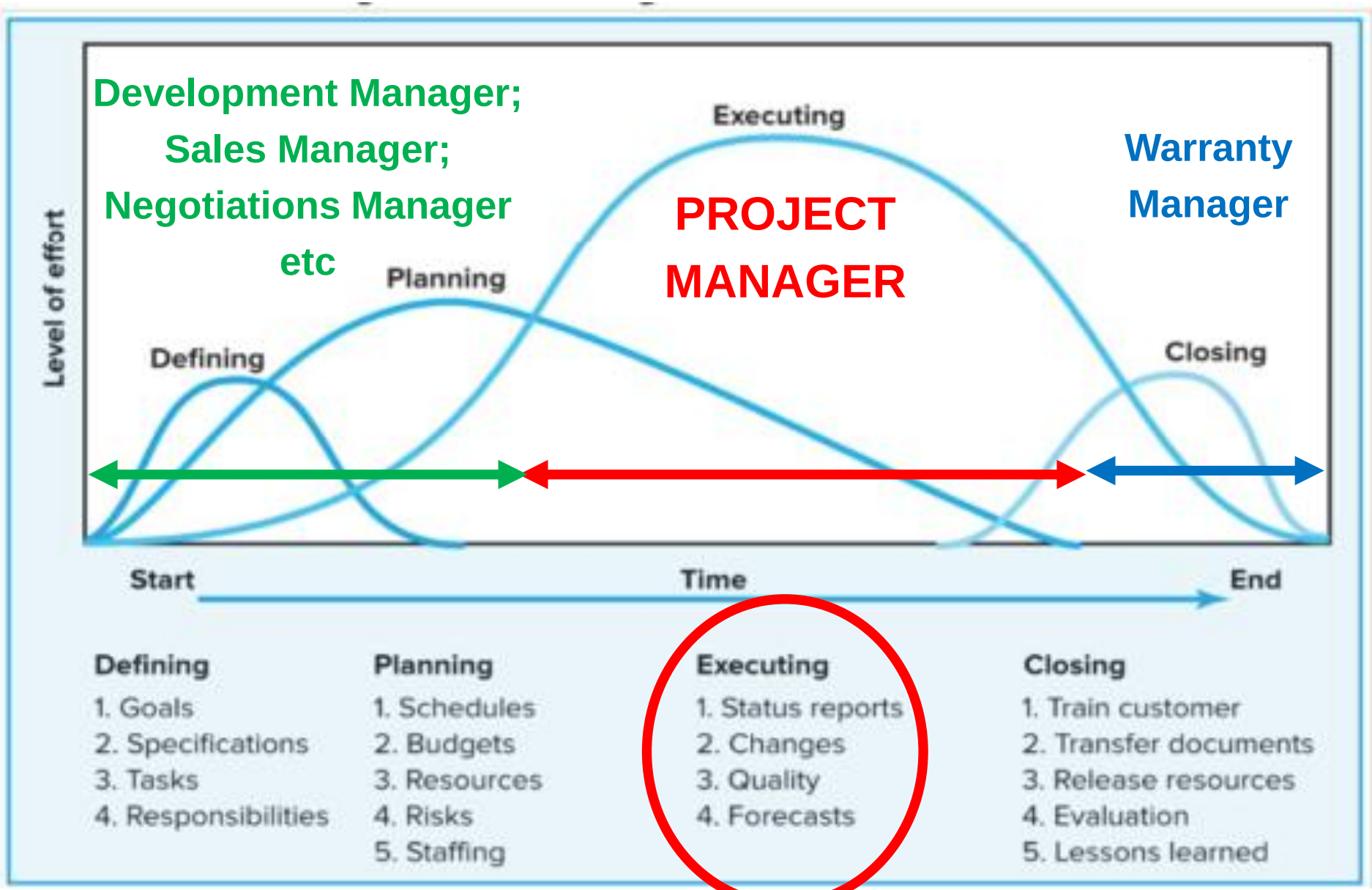
- Tonight we look at turning these plans into deliverables

  ie ***PROJECT EXECUTION***

The Importance of Project Execution within Project Management



In industry, a ‘Project Manager’ is usually more narrowly defined:



In industry, Project Execution is seen to be the heart of Project Management - sometimes, incorrectly, to the detriment of attention on the pre- and post-execution phases.

Nevertheless, the reasons for this focus are clear. It is the phase where:

- the benefits to the sponsoring organisation materialise;
- the bulk of resources are expended;
- the project success or failure is determined.
- [illegible]'s strategies, ambitions and plans are realised

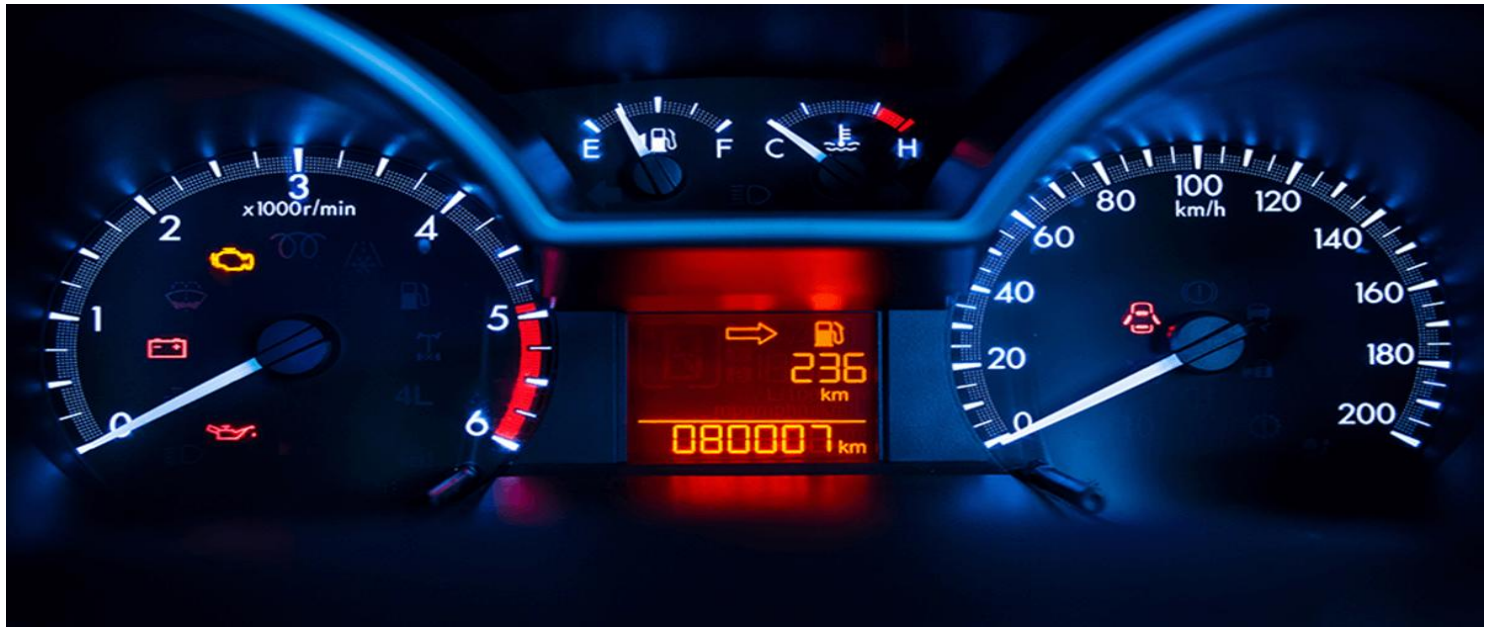
It is where the Rubber meets the Road

The Role of PM during Project Execution

- Directing Project Work to Completion
- Resolving issues arising from PMP non-conformance
- Negotiating & Managing Project Changes
- Stakeholder Management & Communications
- Managing/Developing the Project Team
- Ongoing stakeholder Relationship Building
- Managing Procurement
- Monitoring and Controlling Progress – *Focus of this Lecture*

Context of ‘Monitoring and Controlling Progress’ within Project Management during Execution

Monitoring and Controlling Progress in PM is equivalent to being able to read, understand and react to the information that a car dashboard gives you whilst driving.



Context of ‘Monitoring and Controlling Progres… in Project Management during Execution (e…

It is a necessary skill to f…
itself, it is not suff…

NOTE: Whilst this lecture concentrates on the technical aspects of Project Control, the other roles of a PM in Project Execution rely upon ‘People Skills’: Communications; Building Relationships; Persuading; Negotiating; Leading Teams etc.

Recall from Lecture 4 - PMI's Talent Triangle

Core competencies required as a PM –

highlights again that a PM requires skills beyond just the technical aspects of Project Management we will discuss tonight

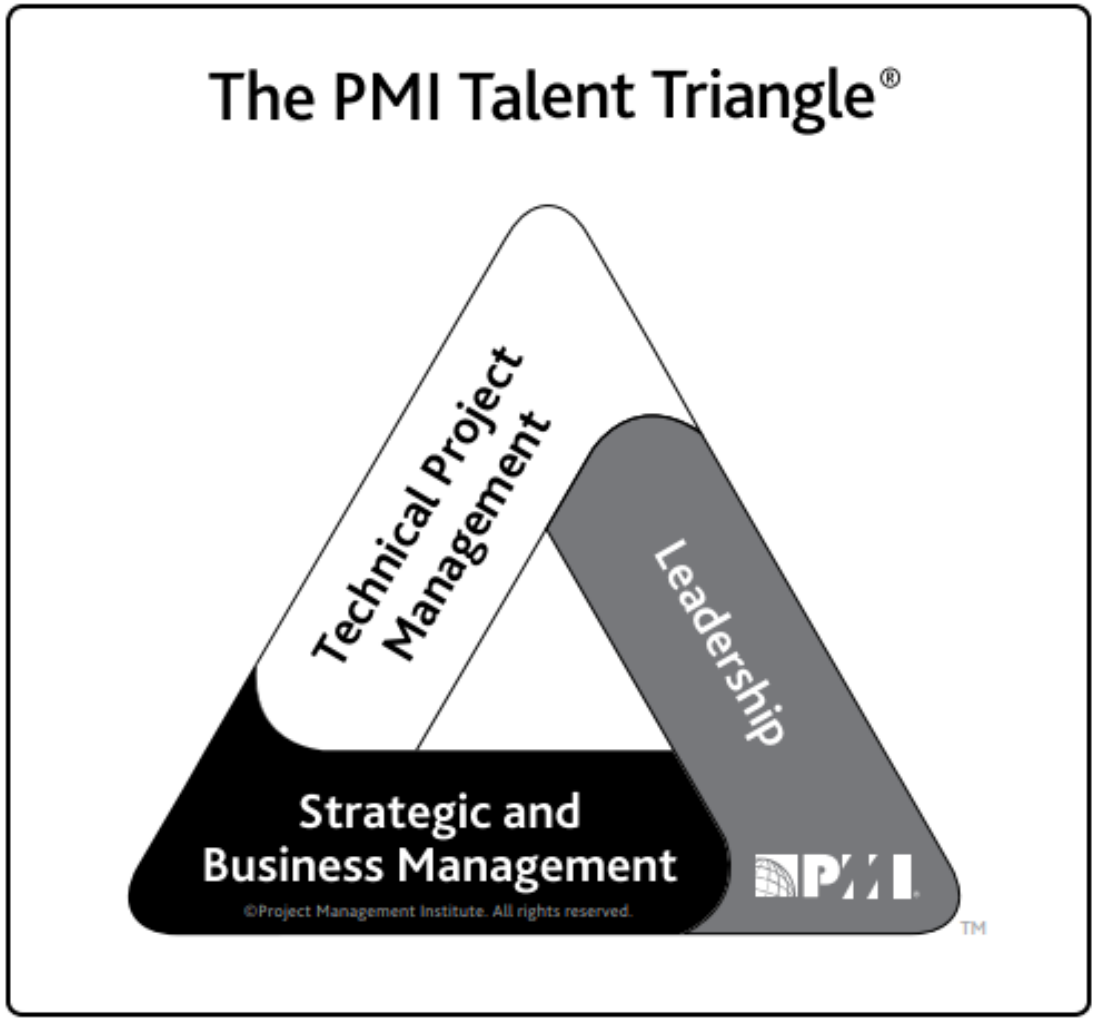


Figure 3-2. The PMI Talent Triangle®

In this lecture, we will look at how the various aspects of a Project Management Plan formulated in Defining & Planning phases are monitored and controlled during execution, using a number of Proje ol tools.

Project Management Plan

Proje

NOTE AGAIN: 'People Skills' also required to turn these technical project controls into actions and thus deliver project outcomes.

Initiate Remedial Project Changes as required

Project Execution Outcomes

More on Project Execution

Biafore B.. "***How to Run a Project***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B.. "***Project Management Software Options***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B.. "***Techniques for Communicating Effectively***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Stanton D. "***Execute the Project Plan***" video in course Leading Projects, released 28/6/19, LinkedIn Learning accessed through UNSW

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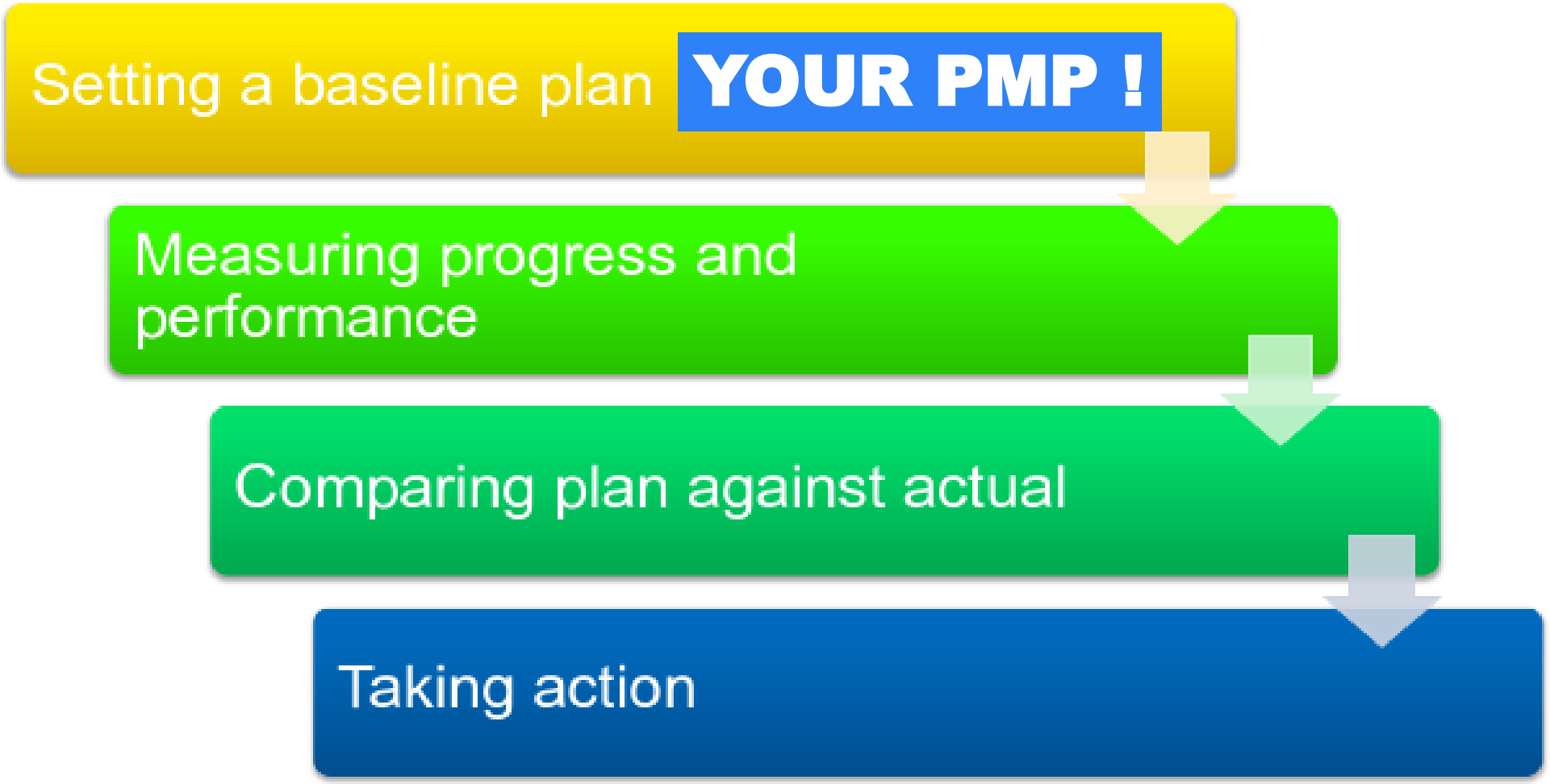
Key task of the project manager

Evaluation and control are a part of every project manager's job.

Project control

Control is the process of comparing actual performance against plan to identify deviations, evaluate courses of action and take appropriate corrective action

The project control process



Managing Progress via Process Control is via a ‘Closed Loop’

Applying Feedback Control ‘Closed Loop’ concept:

Command->Measure->Feedback->Correct

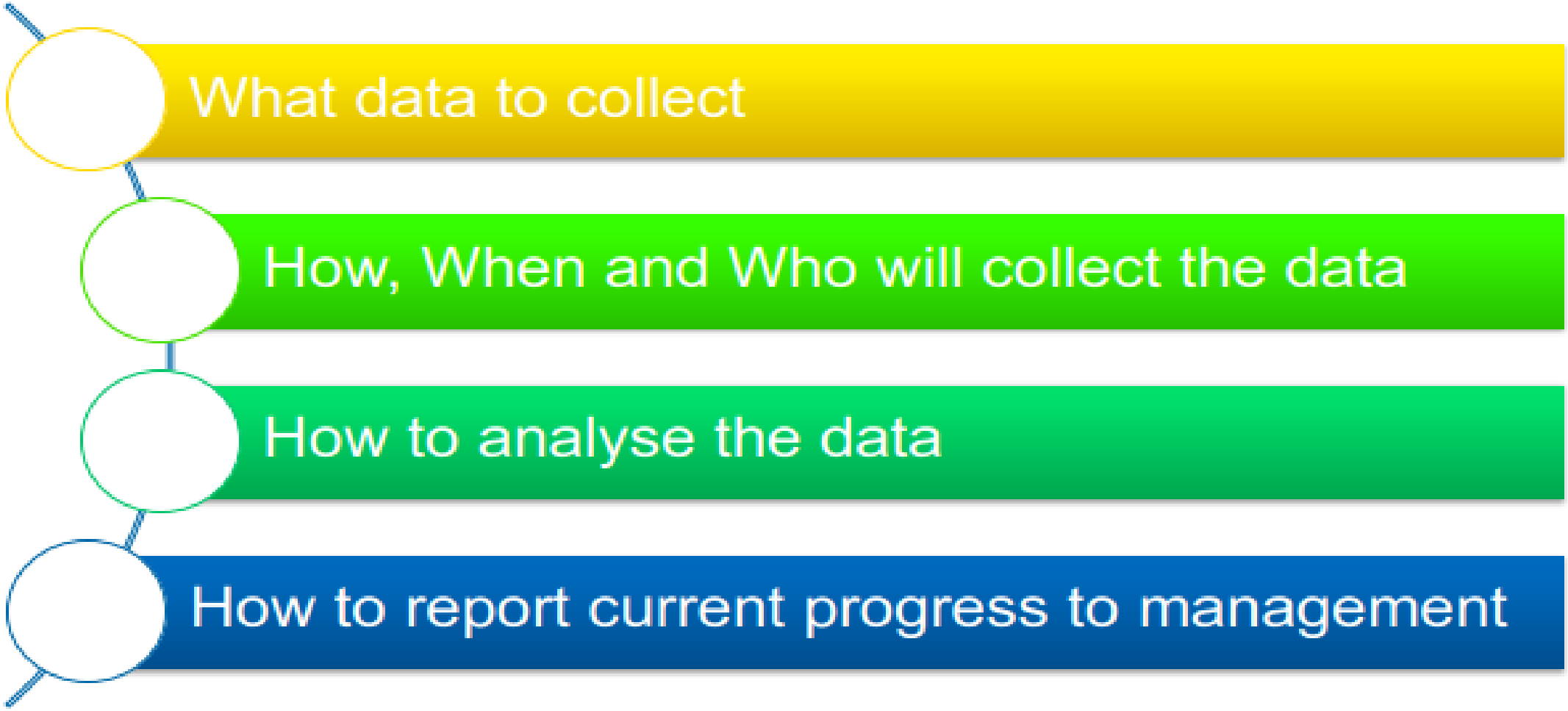
1. Set a Baseline in the plan at the start of the project

2. Collect Data and update schedule / records to measure progress at activity, work package and project levels

3. Feedback by regular periodic reviews – communications, progress reports, project meetings etc

4. Correction by issue of issuing immediate action orders go to initiate necessary corrective action(s).

A project monitoring information system



Typical data to be collected

- Current status of project (schedule, cost, scope)
- Remaining cost to compete project
- Date that project will be complete
- Potential problems to be addressed now
- Cost and/or schedule overruns and the reasons for them
- Forecast of overruns at time of project completion

Collecting the data

Other control issues

Technical performance measurement

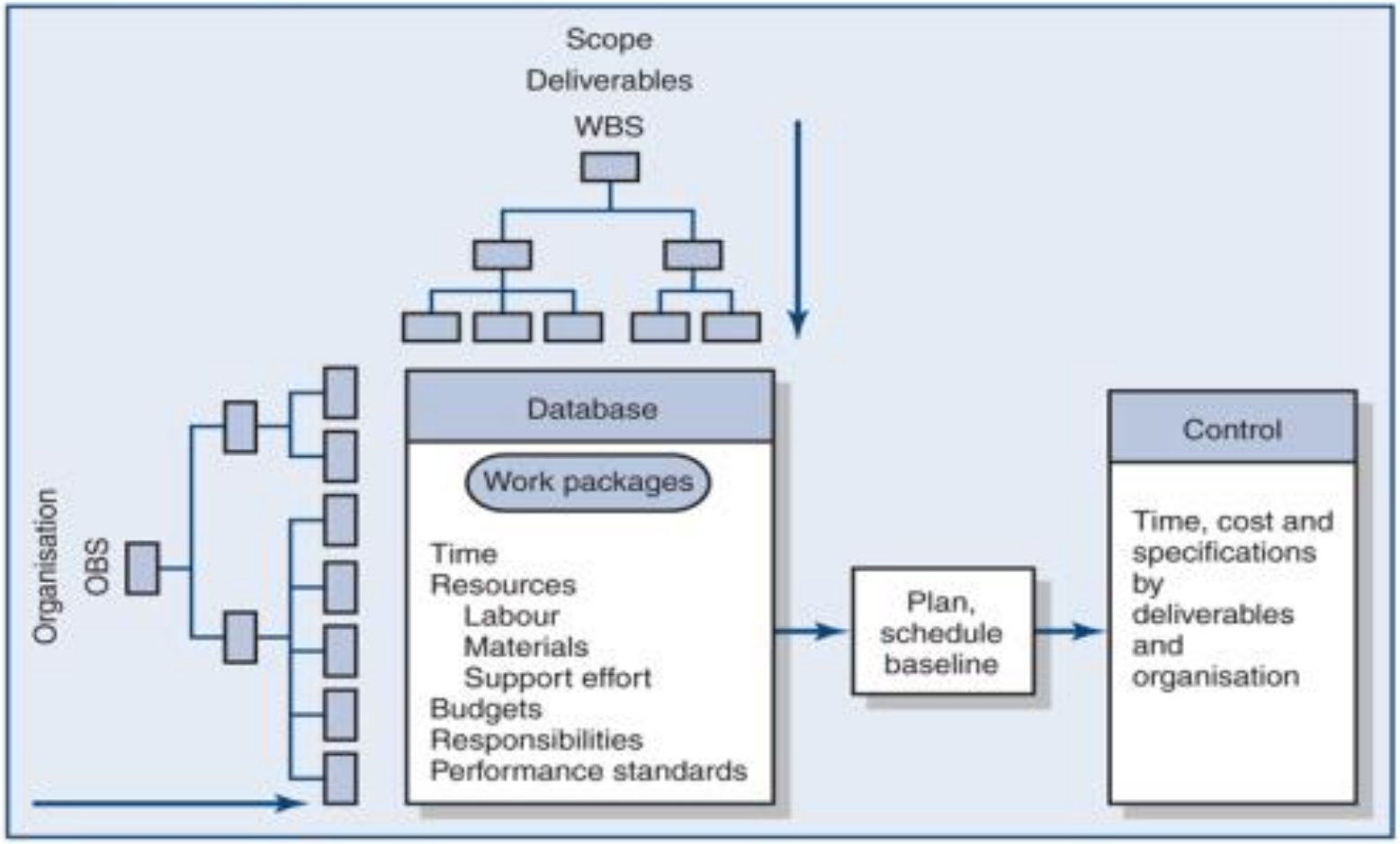
Scope creep

Baseline changes

Data acquisition costs and problems

Project management information system overview

Figure 13.3 PROJECT MANAGEMENT INFORMATION SYSTEM OVERVIEW



Project progress reports

Common Topics

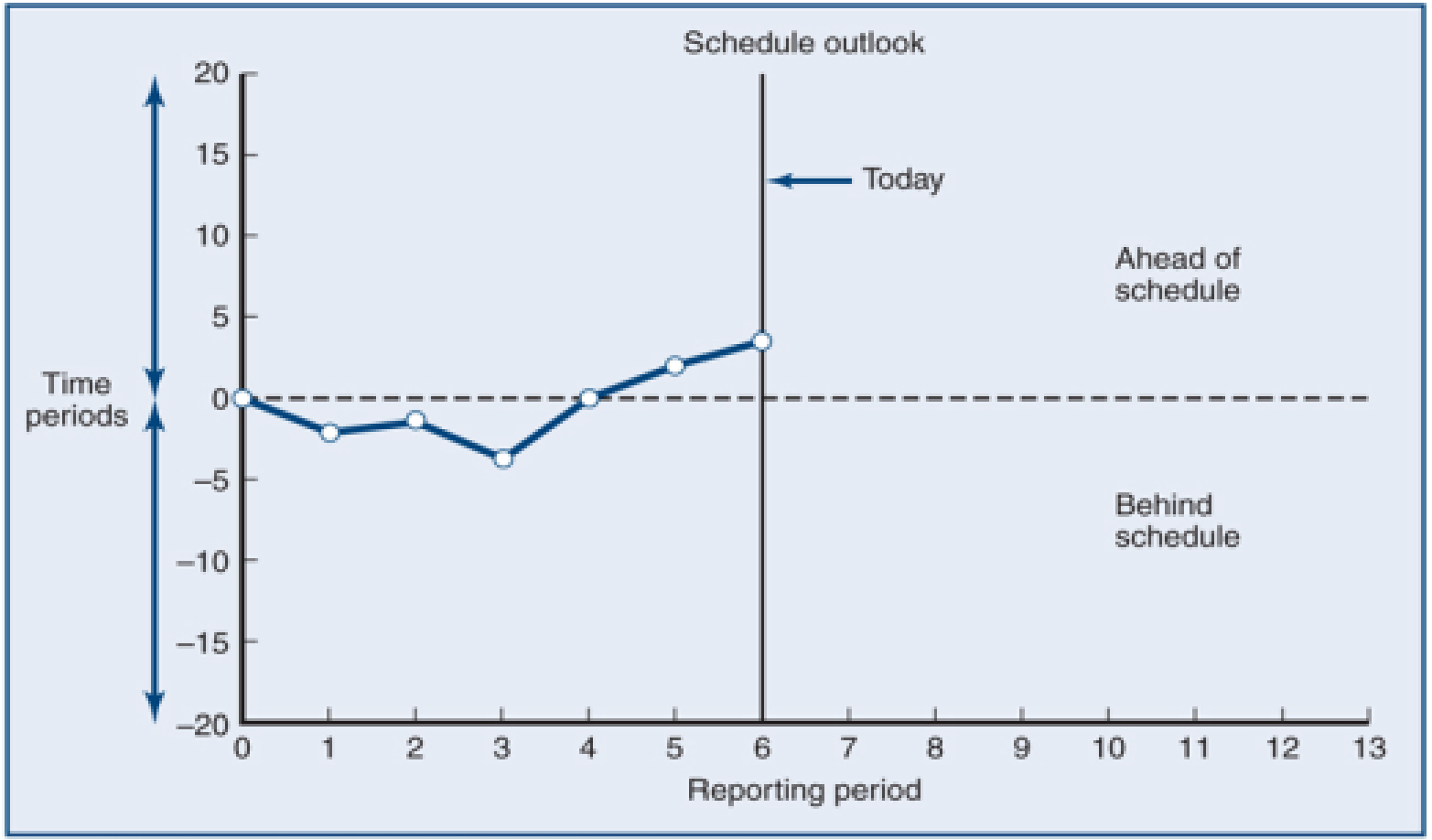
- Progress since last report
- Current status of project (schedule, cost, scope)
- Cumulative trends
- Problems and issues since last report (actions and resolutions)
- Corrective action planned

Decisions on reporting circulation

- Who will receive the reports?
- How will the reports be transmitted?
- When will the reports be distributed?

Example: Project schedule control chart

Figure 13.2 PROJECT SCHEDULE CONTROL CHART



When *Bad News* is uncovered during Project Monitoring

It is most important that if 'bad news' is discovered during periodic monitoring of project, it is reported ***as early as possible****.*

1. This gives the PM the greatest number of options for corrective action; and maximises schedule float and/or budget contingency available to accommodate any proposed corrective changes.
2. Permits maximum time for PM to condition/persuade relevant stakeholder(s) to authorize any proposed corrective changes whilst minimizing hurt to the final project result.

WARNING: Too many projects have gone on to become total disasters because the PM tried to hide 'bad news' until it became impossible to hide & then far too late to rectify.

More on Project Control

Biafore B. "***How to gather data***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***Learn how to solve problems***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***How to get a Project back on track***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Yarbrough O. "***Monitor and Control Project Work***" video in course Project Management Foundations, released 5/11/18, LinkedIn Learning accessed through UNSW

Managing Changes to a Project

Despite the best of planning efforts, changes to projects during Project Execution are often inevitable for a large variety of reasons, including rectification of problems identified by Project Controls.

Managing Changes to a Project (cont.)

Examples of changes necessitated by problems identified by Project Control processes:

- changes in schedule from delayed deliveries,
- changes in schedule from delayed project work execution
- changes in scope due to quality or performance issues needing rectification
- changes in budget due to necessity to add resources to rectify schedule or quality issues

Managing Changes to a Project (cont.)

Examples of changes necessitated by modified or inadequately defined supplier or stakeholder requirements:

- changes in execution processes
- changes imposed by regulatory requirement modifications
- changes due to Customer specification modifications
- changes flowing from Stakeholder business strategic environment
- changes in scope due to differences found in actual vs assumed environmental conditions

Managing Changes to a Project (cont.)

The PM will need to understand the triple constraint trade-offs incorporated within each proposed change

Managing Changes to a Project (cont.)

When proposing changes during project execution, it is important that the PM has considered all related aspects before agreeing to it, namely:

- *Effects on budget, schedule, scope, quality, performance*
- *Availability of additional resources to undertake the change*
- *Understanding of any risks associated with the change*
- *Any regulatory or stakeholder authorizations or constraints*

In short, how the proposed change modifies all aspects of the Project Management Plan baseline.

Managing Changes to a Project (cont.)

The big question becomes, ***who*** is responsible for funding and/or absorbing any schedule delay and/or accepting any scope modification for a proposed change to the project –

Supplier or Customer?

Managing Changes to a Project (cont.)

Customer Funded Changes: – changes in scope, duration, process etc requested **and/or** approved by the Customer:

- *For the Supplier,* changes represent extra revenue but may be disruptive to management of the project; be hastily and inaccurately costed; or add additional risk; or consume resources that would more profitably deployed elsewhere.

- *For the Customer*, requested work is delivered but Supplier will usually have negotiating power re price / schedule / scope etc.

Managing Changes to a Project (cont.)

Unfunded Changes: – changes that are NOT the responsibility of the Customer or NOT authorized by Customer eg

- changes where the parties have pre-agreed that the Customer is not contractually responsible;
- changes due to discovery of Supplier caused quality issues;
- changes needed to remedy performance shortfalls,
- changes requested by customer's project staff but **not** formally authorized by customer

Implications:

- *For the Customer*, such changes can represent delays; raise disputes
- *For the Supplier*, such changes can add cost including cost of re-work, can necessitate major schedule delays; can affect management of remainder of project; and cause reputational damage

Managing Changes to a Project (cont.)

Changes represent one of the greatest areas of project contractual dispute between suppliers and customers revolving around questions such as:

- Who was responsible for the change and its cost / delay / scope / performance implications?
- Was the change properly authorized?
- Are there sufficient resources to make change?

Managing Changes to a Project (cont.)

It is therefore imperative that, at the planning stage, there are pre-agreed:

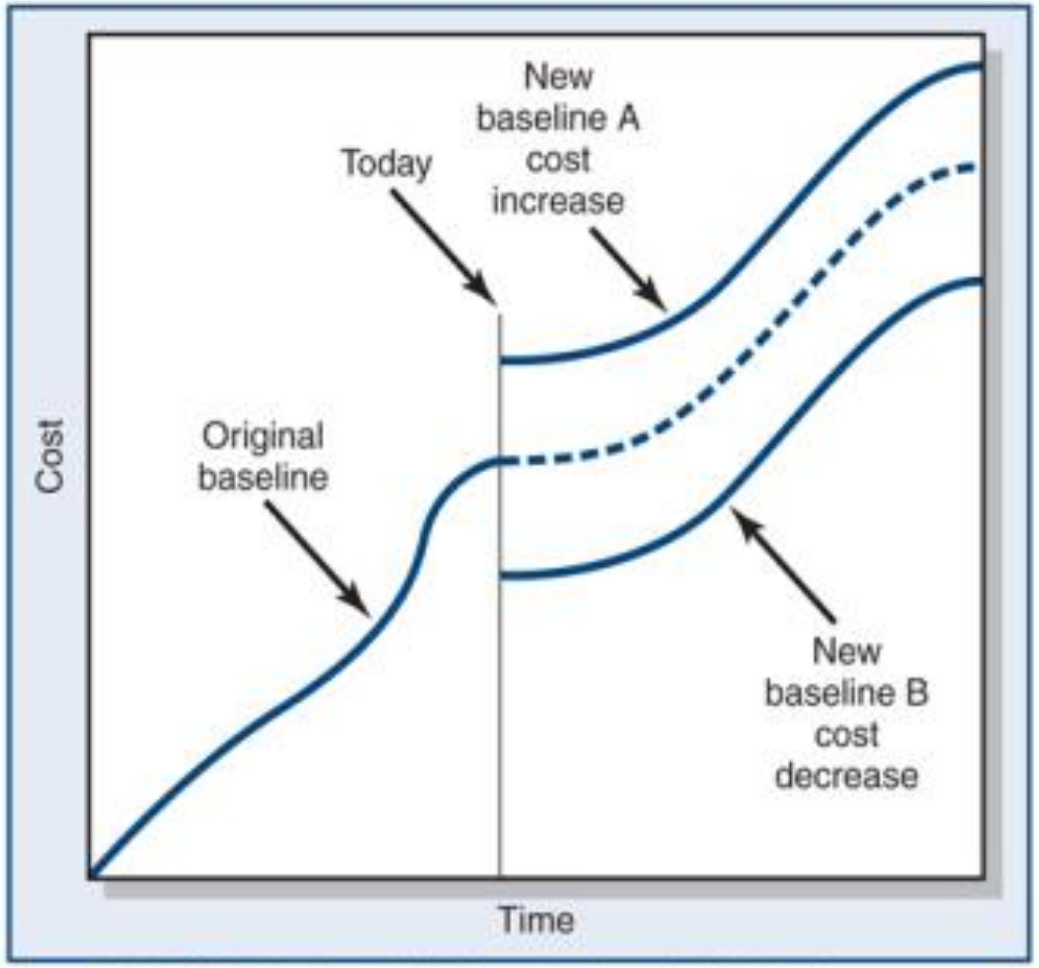
- **authorisation protocols;**
- **Limits to the size, scope, number of changes;**
- **responsibilies are adequately specified**

to avoid later contractual disputes.

Scope changes to a baseline

Example of how a change affects the baseline:

Figure 13.13 SCOPE CHANGES TO A BASELINE

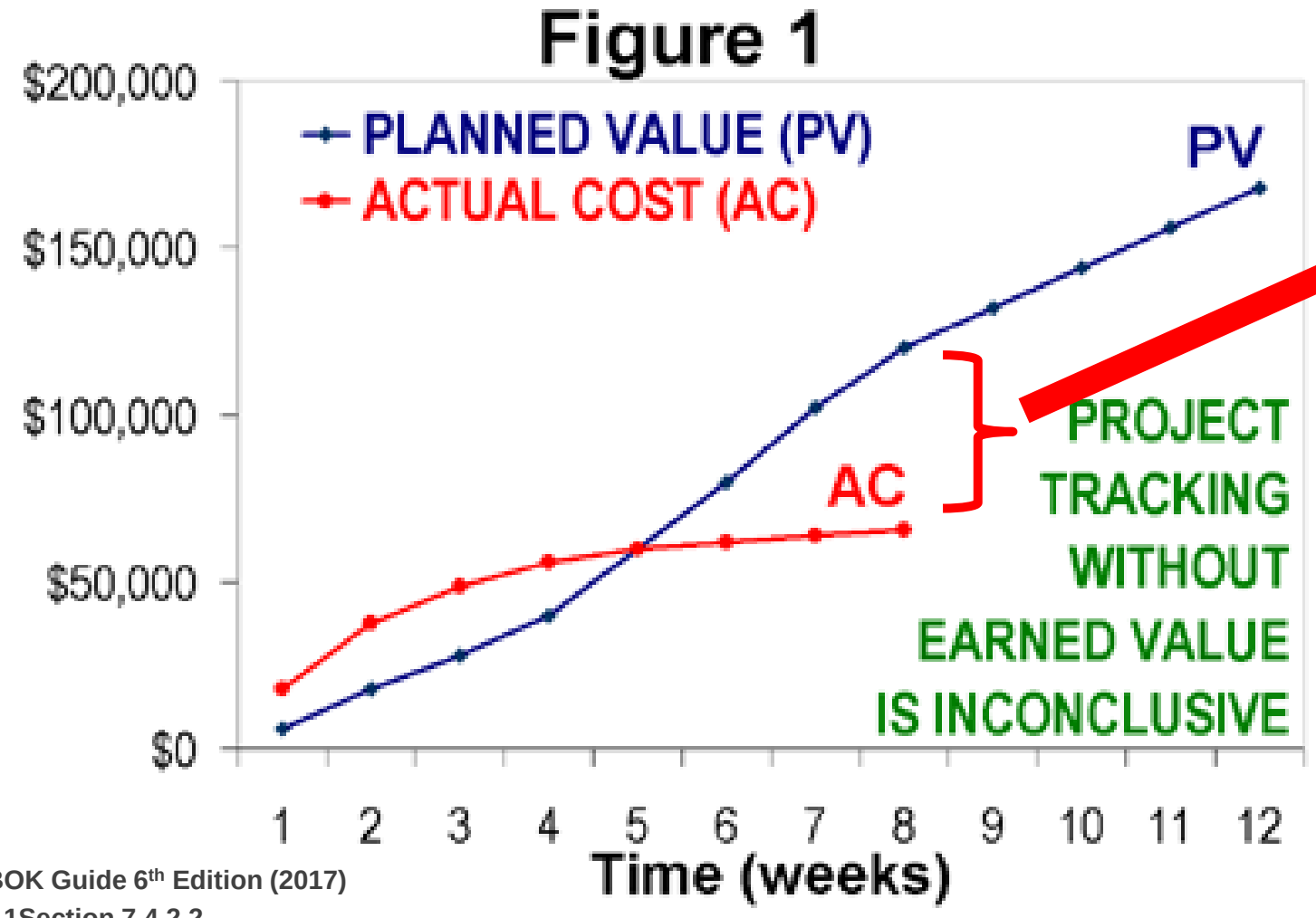


More on Project Changes

Biafore B. "***How to manage project change***" video in course Project Management Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

McGannon B.. "***Change Management in Projects***" video in course Change Management Foundations, released 23/6/16, LinkedIn Learning accessed through UNSW

Project Technique No.1 - Earned Value Analysis



PMBOK Guide 6th Edition (2017)
Part 1Section 7.4.2.2
Earned Value Analysis

Q. Is Actual Cost (AC) being below Planned Value (PV) a good or bad thing?

A. It depends on whether the lower AC is due to cost savings; or due to lack of expenditure on scope due to delays !!

Only including Earned Value (EV) can give you that point of reference

Why Costs are THE primary concern of the PM

Basic Equation of Business:

The PM usually has little direct control over Revenue or Profit/Loss – management usually sign a contract with defined Revenue and associated baseline Profit margin before execution begins and then not easily changed

Costs are the variable the PM has direct day to day control over – hence the part of the equation PM's typically manage

Earned Value is about **cost management**; and also using cost management as an indicator of **schedule progress.**

Earner Value (EV)

Earned Value is a project management technique for measuring project performance and progress.

Essential features of any EV system implementation include:

- a project plan that identifies work to be accomplished
- a valuation of planned work, called **Planned Value (PV)** or Budgeted Cost of Work Scheduled (BCWS)
- Pre-defined “earning rules” (also called metrics) to quantify the accomplishment of work, called **Earned Value (EV)** or Budgeted Cost of Work Performed (BCWP)

Earner Value (EV) – (cont.)

Equation for Earned Value (EV):

EV = % complete x Planned Value

Note: In Australia, EVM has been codified in standard AS 4917-2006

Earner Value (EV) – (cont.)

Example of Use of EV:

In a construction project, the baseline budget has a cost element for the electrical installation work package of $500,000.

So, **PV = $500,000**. If this work package is assessed as being 50% complete, then

EV = % complete x Planned Value

= 50% x $500,000

= $250,000

Planned Value (PV)

The planned value is the planned time-phased baseline of the value of the work scheduled.

The Planned value provides us with an anchor point for measuring future project performance.

It enables us to provide a basis for cash flows and the awarding of progress payments.

Costs are placed exactly as they are expected to be ‘earned’ in order to track them to their point of origin.

Costs typically included in the planned value or baseline are Labour, equipment, materials, and project direct overhead costs.

Percent complete rules

Percent complete

- Costs are periodically assigned to a baseline as units of work are completed over the duration of a work package

0/100 percent

- Assumes 100 per cent of budget credit is earned at once and only when the work is completed

50/50 percent

- Allows for 50 per cent of the value of the work package budget to be earned when it is started and 50 per cent to be earned when the package is completed

Percent complete with weighted monitoring gates

- Uses subjective estimated per cent complete in combination with hard, tangible monitoring points

Common Terms in EV Systems

EV	Earned Value is percent complete x original baseline budget for a task ie percent of original budget earned by actual work completed.
PV	The Planned Value of work scheduled in the time-phased baseline budget
AC	Actual Cost of work completed
CV	Cost Variance is difference between Earned Value and Actual Cost of work completed. CV = EV - AC
SV	Schedule Variance is the difference between Earned Value and baseline Planned Value to date. SV = EV - PV
BAC	Budgeted Cost at Completion – total budgeted cost of baseline at completion
EAC	Estimated Cost at Completion
ETC	Estimated Cost to Complete remaining works
VAC	Cost Variance at Completion indicates expected actual cost overrun or underrun at completion

Alternative Terms Used in Earned Value Analysis

Earned Value (EV)	equivalent to Budgeted Cost of Work Performed (BCWP)
Planned Value (PV)	equivalent to Budget Cost of Work Scheduled (BCWS)
Actual Cost (AC)	equivalent to Actual Cost of Work Performed (ACWP)
Cost Variance (CV)	= BCWP – ACWP
Schedule Variance (SV)	= BCWP - BCWS
Cost Performance Index (CPI)	= BCWP / ACWP
Schedule Performance Index (SPI)	= BCWP / BCWS
Estimated Cost to Complete (ETC)	= (BAC – BCWP) / CPI
Estimated Cost at Completion (EAC)	= ACWP + ETC

Tools for Variance Analysis

Cost Variance

Comparing earned value with the actual costs

Schedule Variance

Comparing earned value with the expected/planned schedule value

Calculating variances

Cost variance (CV)

- Indicates if the work accomplished using labour and materials costs more or less than was planned at any point in the project

CV = EV - AC

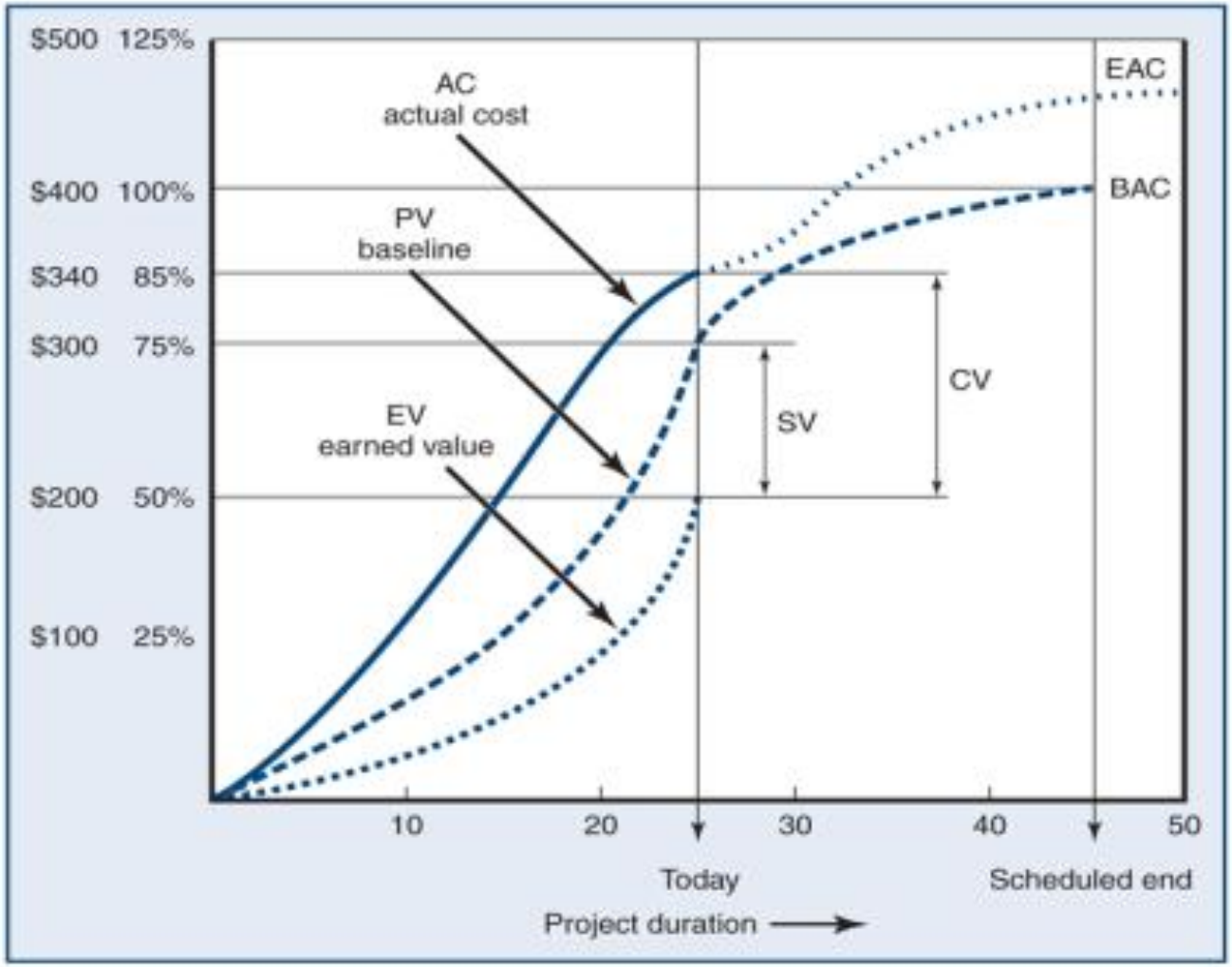
Schedule variance (SV)

- Presents an overall assessment in dollar terms of the progress of all work packages in the project scheduled to date

SV = EV - PV

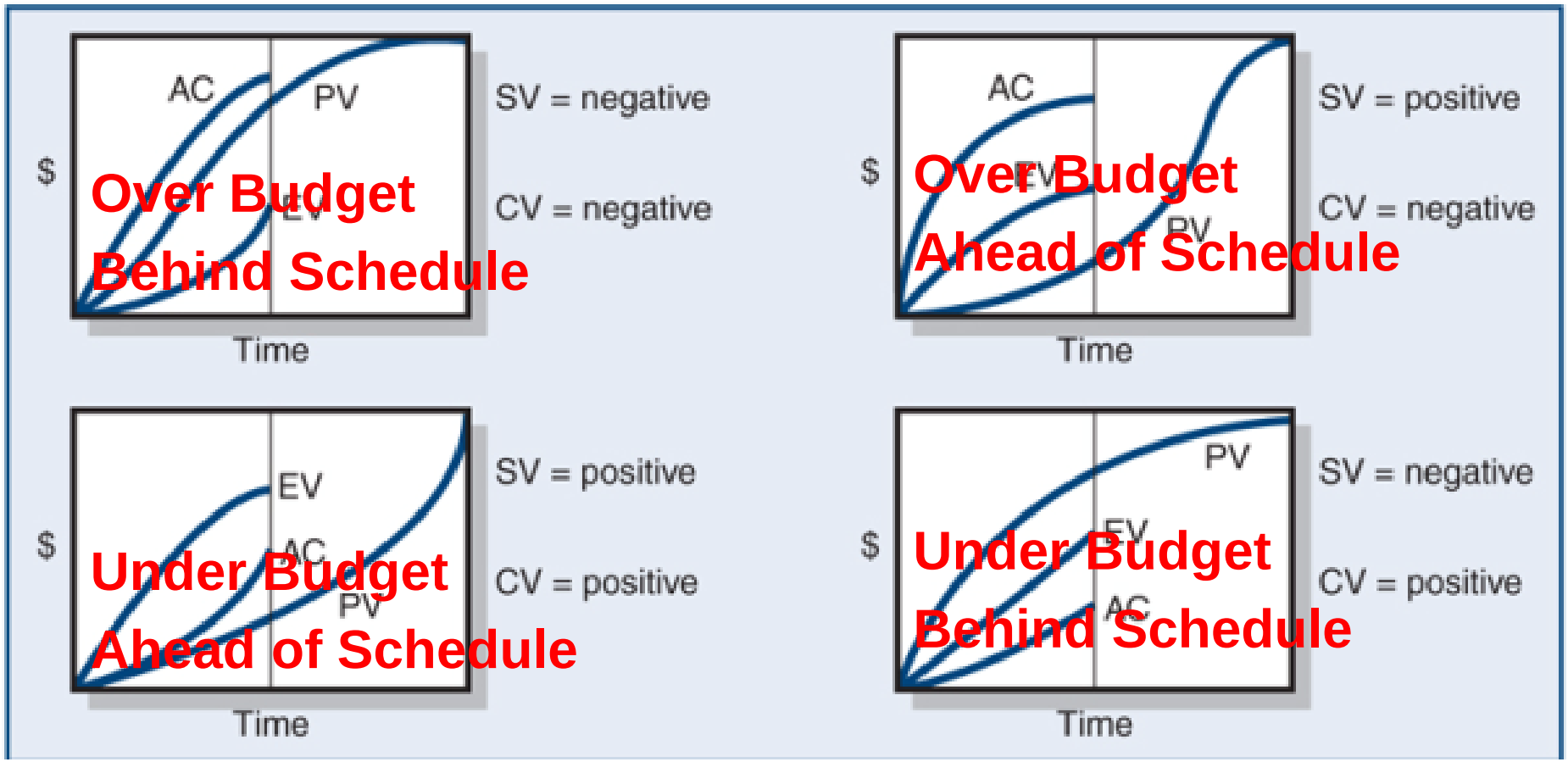
Cost / schedule graph

Figure 13.4 COST/SCHEDULE GRAPH

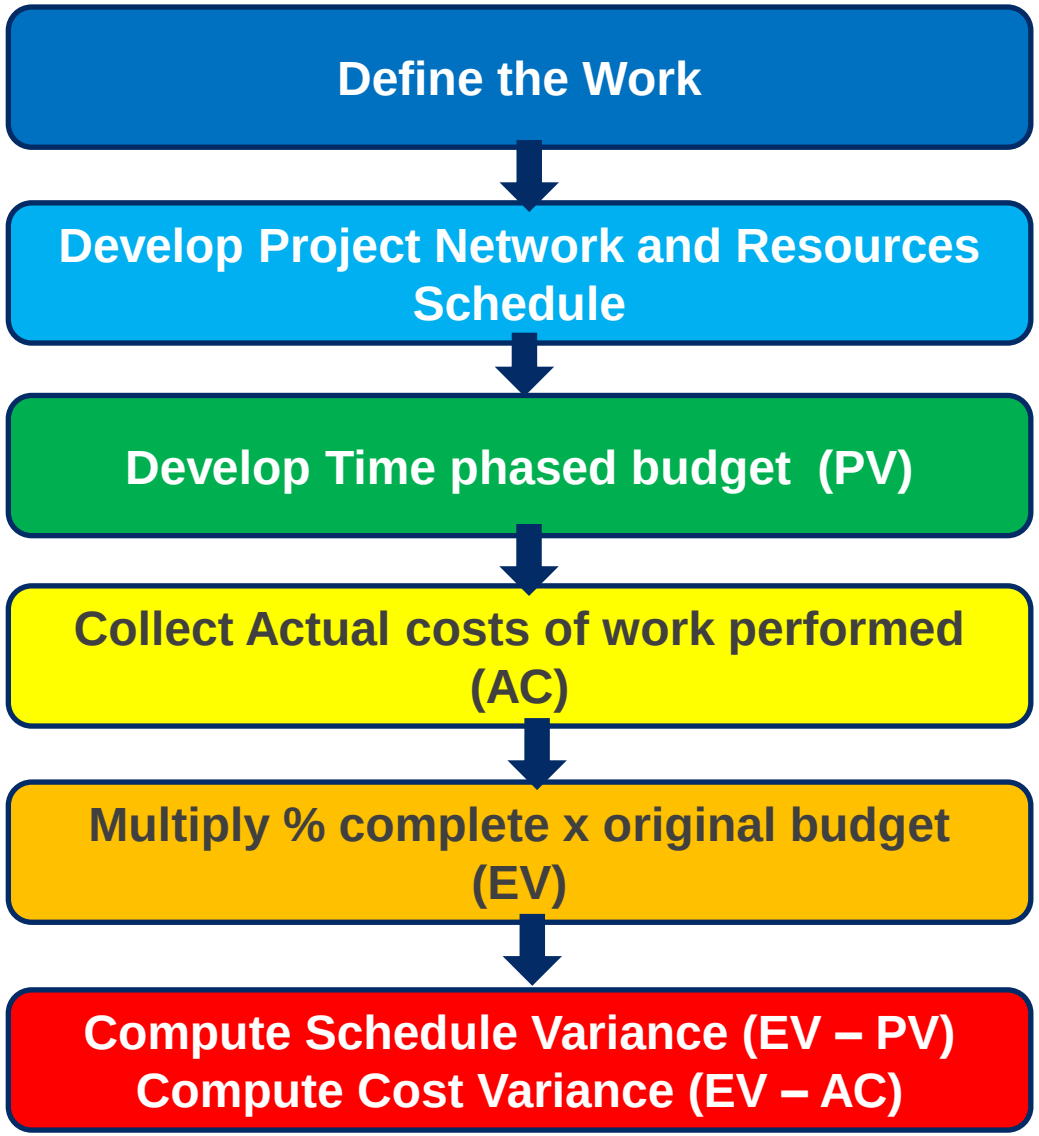


Earned-value review

Figure 13.5 EV REVIEW EXERCISE



The Integrated Cost / Schedule system – Again, WBS starting point



For each Work Package: Deliverable(s), Resources, Budget

Schedule resources to activities; Time Phase work packages into Network

Look at cumulative Planned Expenditure over time

At each Work Package level

At each Work Package level

Use above accumulated data to compute

This can be done within software such as MS Project

Performance indexes

Cost performance index (CPI)

- Measures the cost efficiency of work accomplished to date

CPI = EV/AC

Scheduling performance index (SPI)

- Measures scheduling efficiency

SPI = EV/PV

Percent complete indexes

- Indicates how much of the work accomplished is represented by the total budgeted (BAC) and actual (AC) dollars to date

% Complete – Budgeted

PCIB = EV/BAC

% Complete – Actual

PCIC = AC/EAC

Management Reserve index (MRI)

- Reflects the amount of management reserve that has been absorbed by cost overruns.

MRI - CV/MR

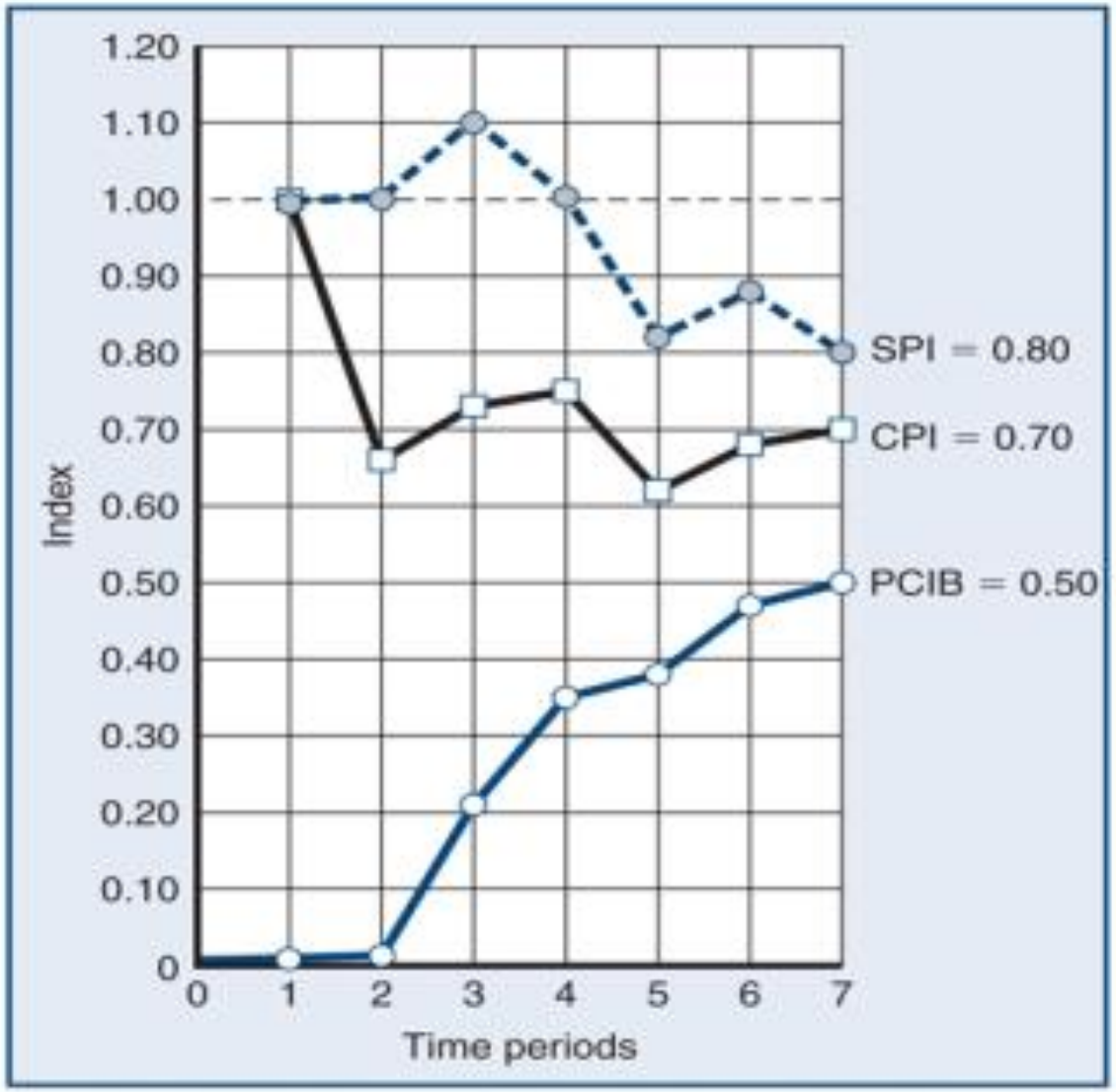
Interpretation of indexes

Index	Cost (CPI)	Schedule (SPI)
> 1.0	Under cost	Ahead of schedule
= 1.0	On cost	On schedule
< 1.0	Over cost	Behind schedule

Tracking Indices over a Period

NOTE: Using **SPI** to monitor schedule performance is only an "approximate" indication. Accurate measurement of schedule requires a detailed look at Tracking Gantt chart. Most major projects do this. We will discuss further in this later in this lecture.

Figure 13.12 INDEXES PERIODS 1–7



Forecasting final project cost

Revised Estimated Cost at Completion (EAC_{re})

Forecasted total cost at completion (EAC_f)

Method 1 - Revised Estimated Cost at Completion (EAC_{re})

NB Forecasts future execution performance based on rates of progress to date

$$EAC_{re} = AC + ETC_{re}$$

Where:

EAC_{re} = Revised Estimated Cost at Completion

AC = cumulative actual cost. Of work completed to date

ETC_{re} = revised estimated cost to complete the remaining work

Method 2 - Forecasted total cost at completion (EAC_f)

$$EAC_f = ETC + AC$$

$$ETC = \frac{Work\ remaining}{CPI} = \frac{BAC - EV}{\frac{EV}{AC}}$$

NB Forecasts future execution performance based on rates of progress to date

Where:

EAC_f = Forecasted total cost at completion

ETC = Estimated cost to complete the remaining work

AC = cumulative actual cost of work completed to date

CPI = cumulative cost index to date

BAC = total budget of the baseline

EV = cumulative budgeted cost of work completed to date

Variance Analysis

Variance: *"A quantified deviation or divergence away from a known baseline or expected value"*

Variance Analysis*:* *"A technique for determining the cause and degree of difference between Baseline and Actual Performance."*

PMBOK

Variance Analysis (cont.)

When looking at variance in expected Total Forecast Cost at completion, the question can be asked:

Is a positive variance better than a negative variance?

1. Strictly from the perspective of the individual project, a positive variance would be viewed as better because lower costs equate to higher profit on the project.

2. Nevertheless, in industry, even a positive variance would be considered a potential problem from an organisational perspective because it indicates an inaccurately high cost-estimate used at the project planning phase. Continued use of such inaccurately high cost-estimates could result in excessively high tendering prices on future projects, resulting in potential loss of work (revenue and profit).

3. Therefore, accurate cost estimating, demonstrated by low variance in Total Forecast Cost at Completion is the optimum as a basis of project planning and project decision making.

Example project status report

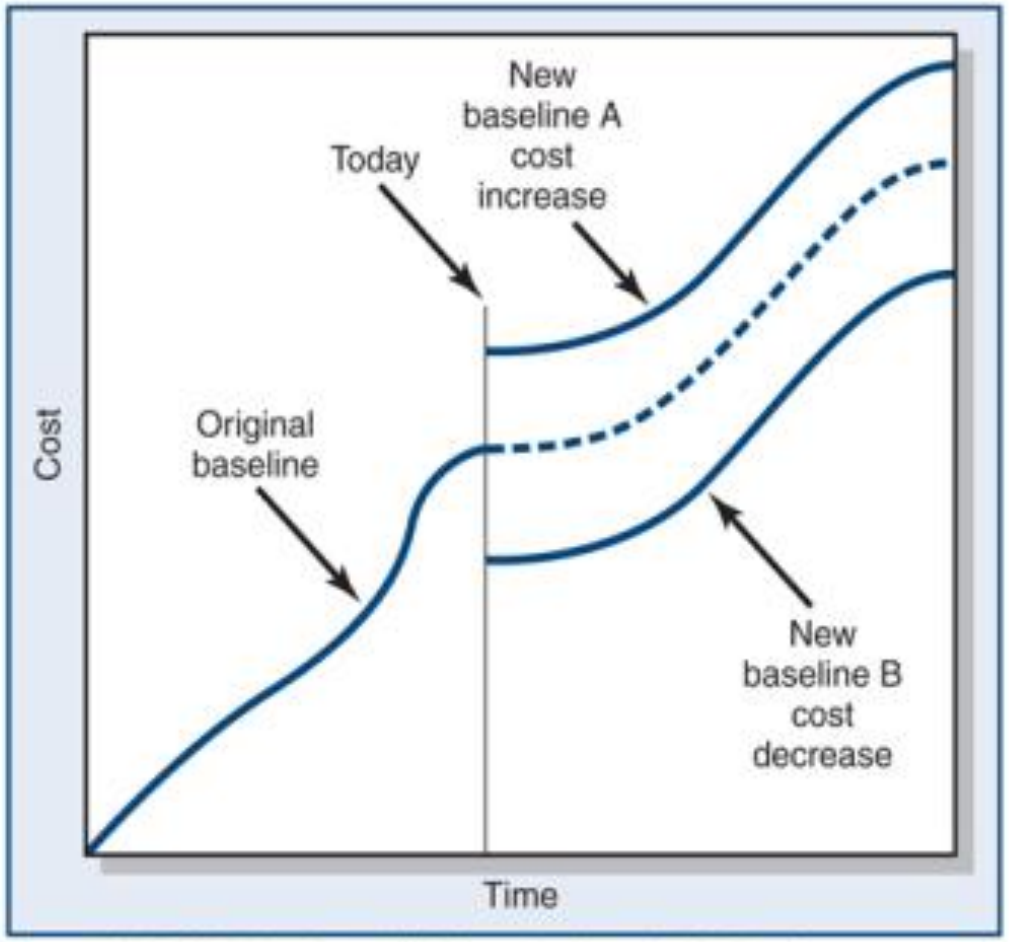
Project number: 163 **Project manager:** Connor Gage
Project priority now: 4
Status as of: April 1, 2007
Earned value figures:

PV	EV	AC	SV	CV	BAC
588,240	566,064	596,800	−22,176	−30,736	1,051,200
EAC	**VAC**	**EAC_t**	**CPI**	**PCIB**	**PCIC**
1,090,640	−39,440	1,107,469	.95	.538	.547

Project description: A computer-controlled conveyor belt that will move and position items on the belt with accuracy of less than one millimeter.
Status summary: The project is approximately 25 days behind schedule. The project has a cost variance of ($30,736).
Explanations: The schedule variance has moved from noncritical activities to those on the critical path. Integration first phase, scheduled to start 3/26, is now expected to start 4/19, which means it is approximately 25 days behind schedule. This delay is traced to the loss of the second design team which made it impossible to start utilities documentation on 2/27 as planned. This loss illustrates the effect of losing valuable resources on the project. The cost variance to date is largely due to a design change that cost $21,000.
Major changes since last report: The major change was loss of one design team to the project.
Total cost of approved design changes: $21,000. Most of this amount is attributed to the improved design of the serial I/O drivers.
Projected cost at completion: EAC_t is estimated to be $1,107,469. This represents an overrun of $56,269, given a CPI of .95. The CPI of .95 causes the forecast to be greater than the VAC −$39,440.
Risk watch: Nothing suggests the risk level of any segments has changed.

Using EV Analysis on a Re-baselined project

Figure 13.13 SCOPE CHANGES TO A BASELINE



Using EV Analysis on a Re-baselined project

We can use EV Analysis to forecast effects of cost changes with an acceptable degree of accuracy by changing AC and seeing effects on EV cost parameters (ie CV, CPI, ETC, EAC)

However, this cannot be done with schedule forecasts. It can be seen from the EV Schedule parameter formulae (SV, SPI) that they rely upon forecasting schedule based on projecting forward past rates of expenditure. Once costs are changed, their use as a schedule forecasting tool breaks down.

Schedule changes need to be assessed using Gantt Chart analysis

Using EV Analysis on a Re-baselined project (cont.)

An important point to note is that EV Analysis compares project performance against the **originally planned** performance (budget, schedule etc).

If, for whatever reason(s), the original plan in terms of budget and/or schedule becomes unachievable, the organization's management may choose to '**re-baseline'** the project**.** This indicates that they accept that the original plan is unachievable; and therefore, they want the PM to work towards a revised plan (revised cost budget, schedule etc).

Re-baselining a project indicates acceptance of consequent changes to project profitability

Using EV Analysis on a Re-baselined project (cont.)

EV analysis can then be used to measure progress against a **new re-baselined** plan. At this stage, EV analysis is **NOT** showing progress against original budget or schedule.

Effects shown in EV Analysis:

- new cost budget shown in revised **BAC**;
- the **number of remaining time periods** may change per revised schedule;
- revised **PV** spread across the remaining revised time periods;
- **EV** calculated on the revised PV values.
- **AC** would continue to accumulate based on actual costs

More on Earned Value

Biafore B.. "***Understand Earned Value Analysis***" video in course Project Management Foundations, released 28/6/10, LinkedIn Learning accessed through UNSW

Biafore B. "***Using earned value***" video in course Microsoft Project 2013, released 18/4/13 LinkedIn Learning accessed through UNSW

Project Tool No 2: Managing Schedule using Tracking Gantt Charts

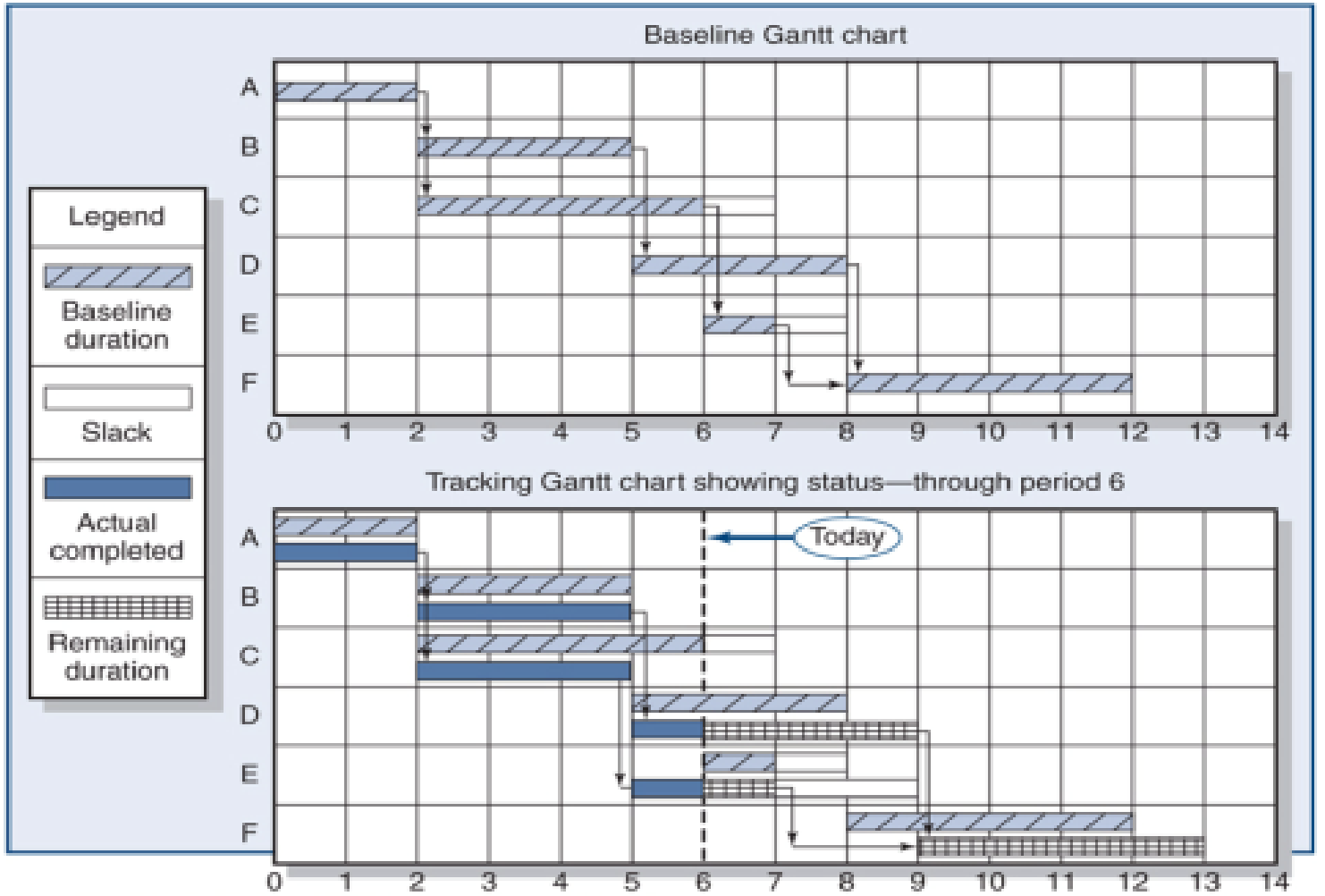
Schedule Management:
Earned Value Analysis vs Tracking Gantt Charts

Whilst **Earned Value Analysis** is very useful at giving an early ‘dashboard’ indication that a project is falling behind schedule; it cannot provide detailed information on schedule delays or critical path impacts; and so, is not an adequate tool in suggesting rectifying solutions.

To look at schedule progress in detail and develop solutions to any problems arising therein, a **Tracking Gantt Chart** is most commonly used.

Baseline and tracking Gantt charts

Figure 13.1 BASELINE GANTT CHART



More easily managed in software such as MS Project

Critical Path Analysis

It should be noted that as work is completed; delays develop and are mitigated by remedial actions, the critical path in a schedule can change.

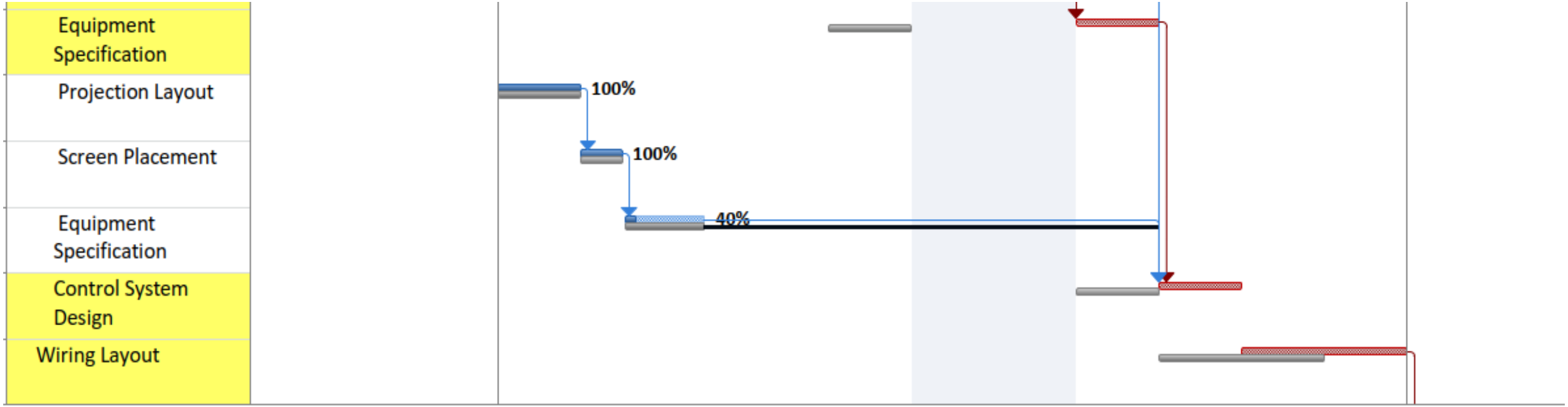
Using tracking Gantt charts allows this to become evident; and therefore responded to in a timely fashion.

Remedial Actions for Schedule Delays

By remaining on top of project progress relative to baseline schedule, the PM is in a position to initiate remedial action(s), for example:

- Employ additional resources on the project
- Delete scope or modify execution processes
- Expedite deliveries of bought-in items
- Make decisions on options within triple constraint tradeoffs (scope vs cost vs schedule)
- Gain authorizations for proposed changes from relevant stakeholders eg management / sponsor / customer

Example of Tracking Gantt showing Critical Path in MS Project



Critical Progress		Duration-only		Summary Progress		Inactive Milestone	
Task		Critical		Summary		Inactive Summary	
Split		Critical Split		Manual Summary		Deadline	
Task Progress		Baseline		Project Summary		Slack	
Manual Task		Baseline Split		External Tasks			
Start-only		Baseline Milestone		External Milestone			
Finish-only		Milestone		Inactive Task			

Expediting to manage progress on ‘Bought-in’ Items

Expediting involves ***communication*** with suppliers, including, as necessary, visits to supplier premises, to safeguard progress and quality; and to provide an early warning system to initiate remedial actions for any problems arising.

*NB Expediting is **far more** than just chasing up late deliveries*

Milestone schedules

Milestones are significant project events that mark major accomplishments.

Milestone schedules are often useful to keep distant stakeholders informed of progress of a project as they do not need detailed project information.

More on Tracking Gantt Charts

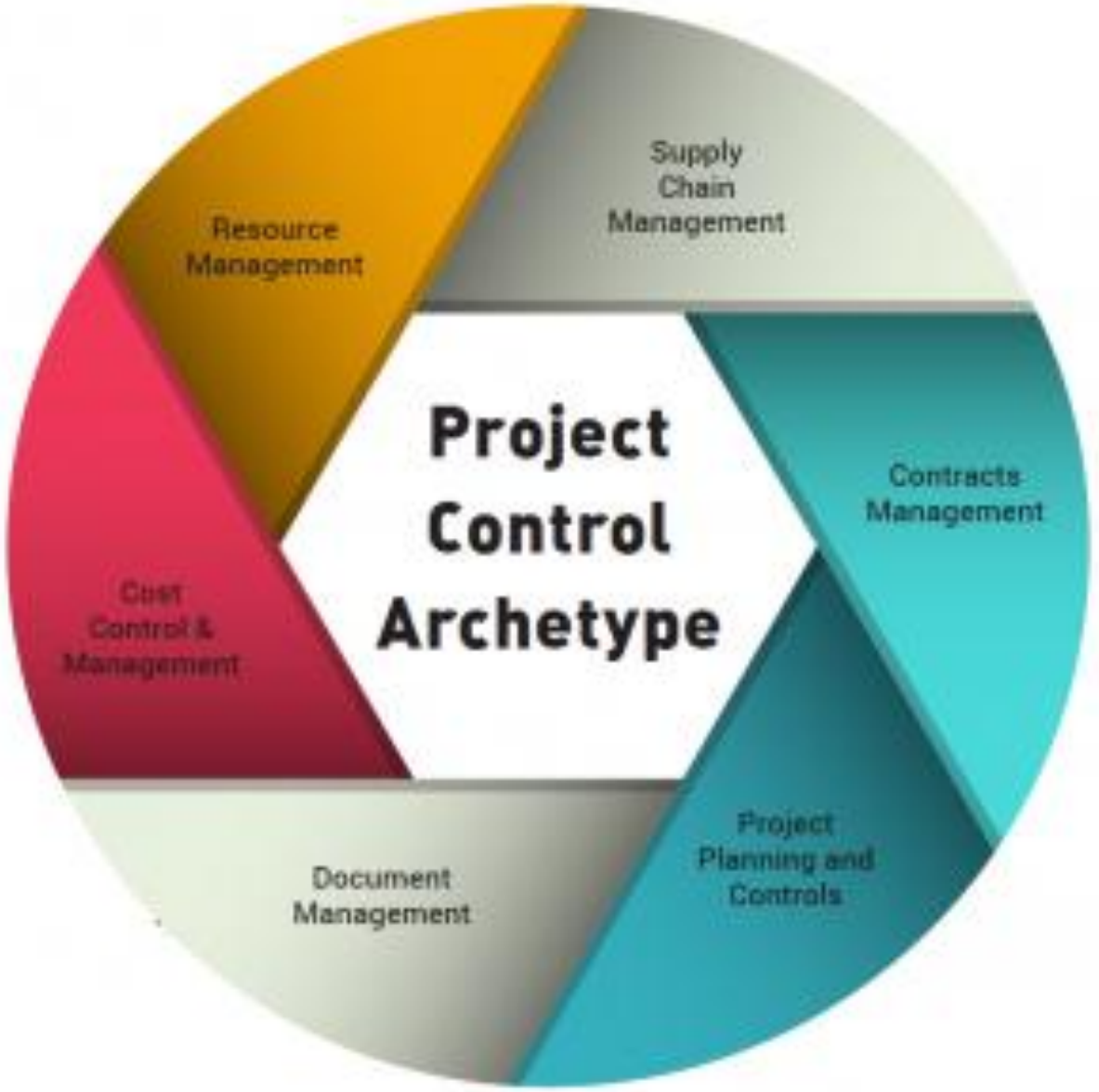
Biafore B. "***Understanding the Critical Path***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***Evaluate Progress***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Rioopel J. & Biafore B. "***Recording Progress***" video in course Managing Resource Constrained Projects with Microsoft Project, released 13/8/15, LinkedIn Learning accessed through UNSW

3. Other Project Controls

Other items on PMP that need to be controlled during Project Execution



3.1 Quality Management

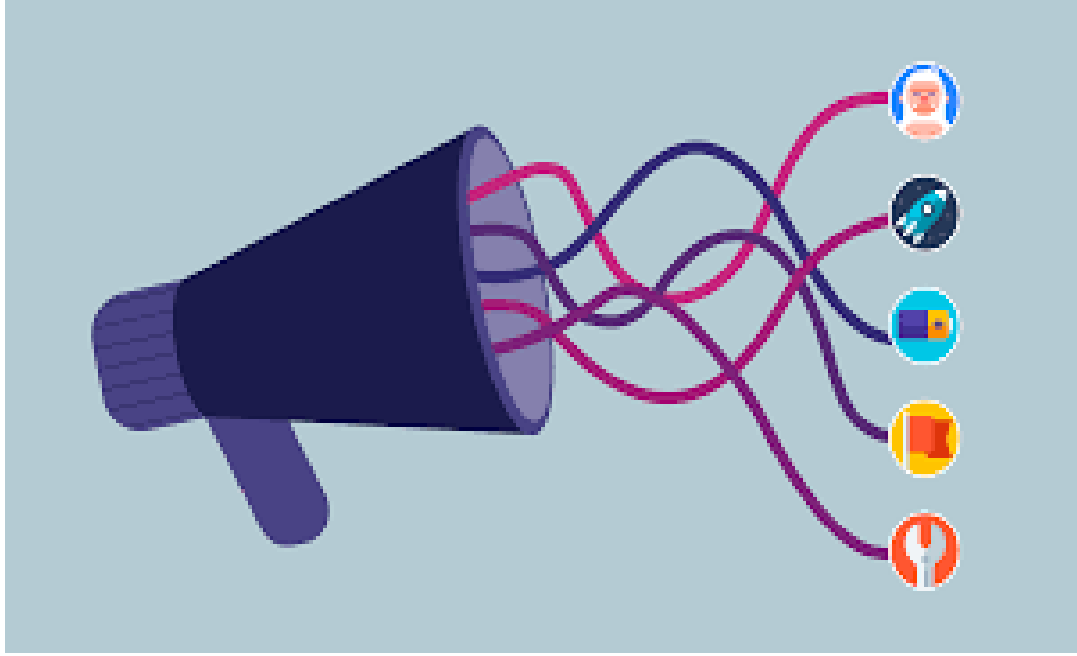
- Check Lists
- Statistical Sampling
- Performance Tests
- Schedule Hold Points
- Quality Assurance Inspections

3.2 Resource Management

- Human Resources
- Asset Utilisation
- Logistics
- Training Requirements
- Project Team Management

3.3 Communications Management

3.4 Stakeholder Management



- Stakeholder Reporting
- Progress Reporting
- Reporting to Project Team
- External Communications
- Meeting communications requirements from PMP

3.5 Risk Management

- Monitoring Risk Management Plan
- Actions to mitigate risk
- Assessing risks associated with proposed project changes

3.6 Procurement Management

- Earned Value Analysis
- Performance reviews
- Inspections
- Audits
- Expediting

More on Other Project Controls

Biafore B. "***Learn How to manage project scope***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***Monitor and Control Risks***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***Manage Team Resources***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***How to manage technical teams***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

McGannon B.. "***What is Project Quality?***" video in course Managing Project Foundations: Quality, released 22/10/14, LinkedIn Learning accessed through UNSW

McGannon B.. "***Performing Quality Assurance***" video in course Managing Project Foundations: Quality, released 22/10/14, LinkedIn Learning accessed through UNSW

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Part 2

Project Closure

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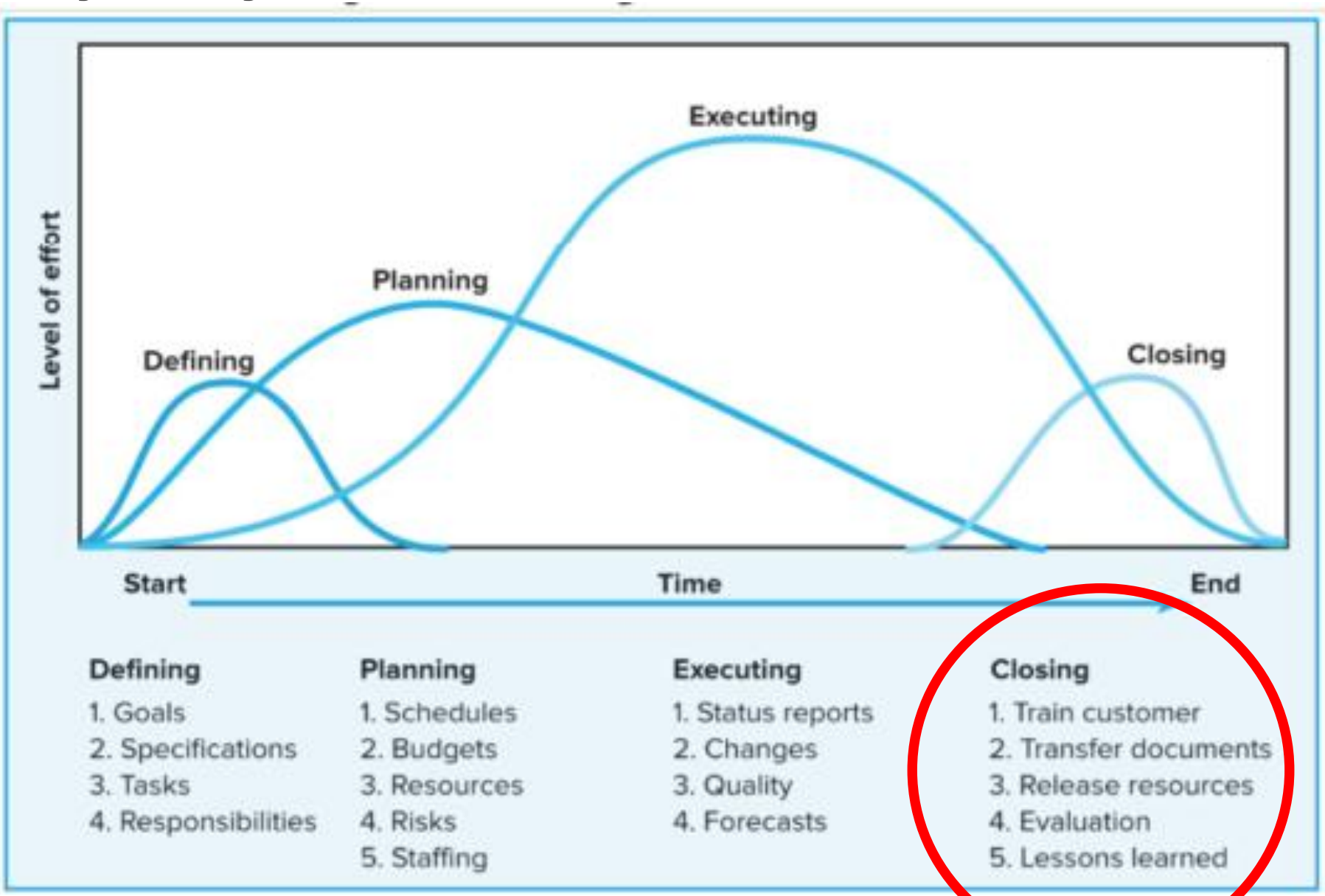
Generic Project Cycle

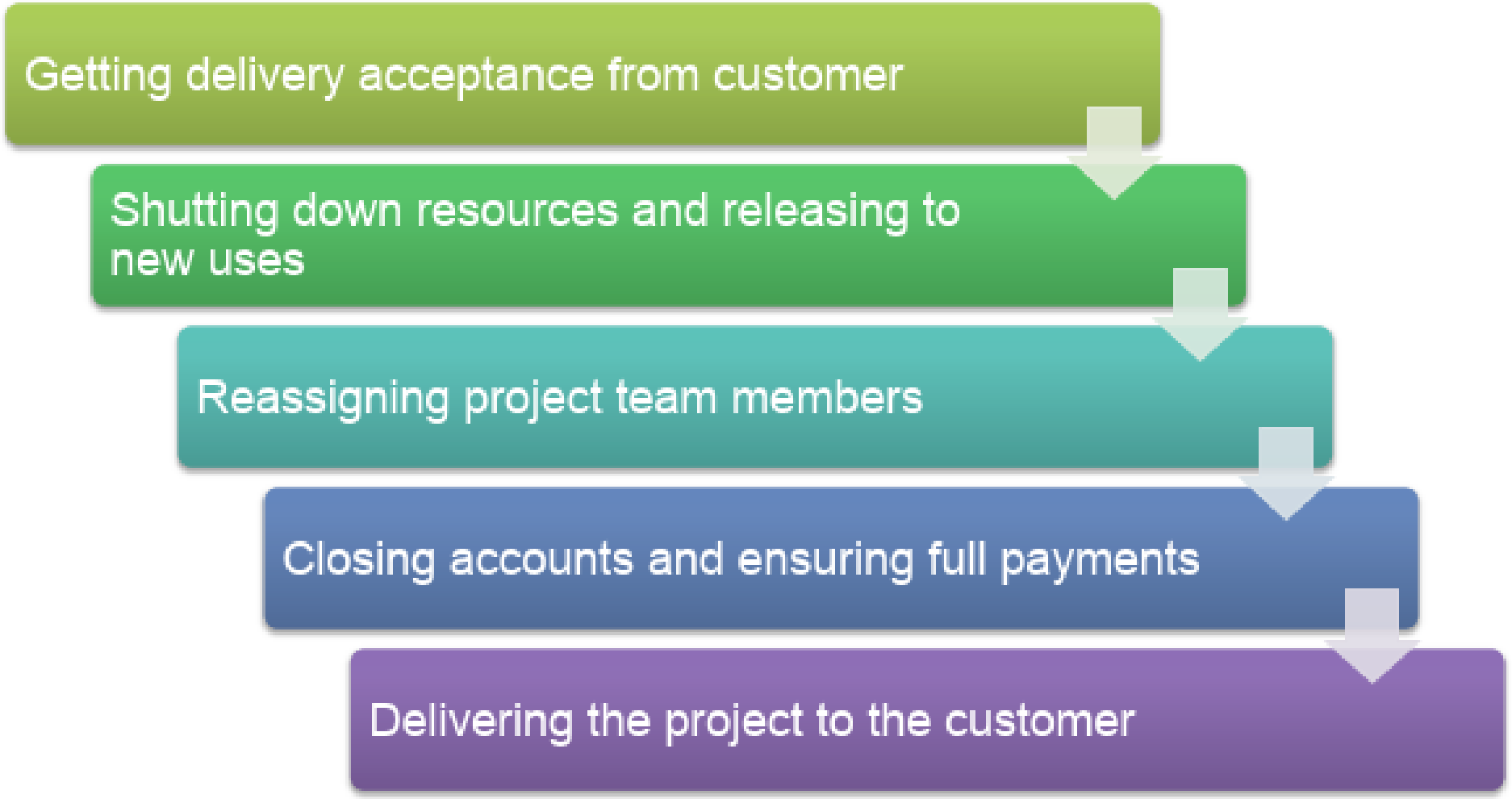


Defining	Planning	Executing	Closing
1. Goals	1. Schedules	1. Status reports	1. Train customer
2. Specifications	2. Budgets	2. Changes	2. Transfer documents
3. Tasks	3. Resources	3. Quality	3. Release resources
4. Responsibilities	4. Risks	4. Forecasts	4. Evaluation
	5. Staffing		5. Lessons learned

Types of project closure

Types	Description
Normal	A completed project.
Premature	An early completed project. Sometimes through changes in scope or response to environment.
Perpetual	Constantly changing, never ending. Needs firm decisions to close out.
Failed project	One that did not reach completion point, through varying reasons. Communication important.
Changed priority	Change in priority of project throughout development.

Wrapping up the project



The Role of PM during Project Closure

- Assessing Success
- Recording Project Knowledge
- Identifying Lessons Learnt
- Measuring Stakeholder Satisfaction
- Managing Formally Closure of Project Activities
- Managing finalisation of commercial aspects
- Managing Redeployment of Resources
- Formally reporting/communicating Project Outcomes

Common components of the final report

Retrospectives

Lessons learned

- An analysis carried out during and shortly after the project life cycle to capture positive and negative project learning
- What worked and what didn't?

Goals of retrospectives

- To re-use learned solutions
- To stop repetitive mistakes
- To improve organisational learning

Project evaluation

Assess how well the project team, team members and project manager performed

Team evaluation

- should emphasise the whole and not the parts

Individual evaluation

- focuses upon personal contribution and expertise and how well the person worked in the team

Individual performance assessment

Multi-rater appraisal—the 360-degree review

- Involves soliciting feedback concerning team members' performance from all of the people that their work affects
  - Includes project managers, functional managers, peers, subordinates, and customers

Challenges resulting in poor-quality evaluations

Evaluations of individuals are often left to supervisors of the team member's home department

Only measuring the team performance on the dimensions of time, cost and specifications/scope.

Sample team evaluation and feedback survey

TABLE 14.2 Sample team evaluation and feedback survey

		Disagree				Agree
Using the scale below, assess each statement.						
1	The team shared a sense of common purpose and each member was willing to work towards achieving project objectives.	1	2	3	4	5
2	Respect was shown for other points of view. Differences of opinion were encouraged and freely expressed.	1	2	3	4	5
3	All interaction among team members occurred in a comfortable, supportive atmosphere.	1	2	3	4	5

Barriers to organisational learning

- Lack of post-project time for developing lessons
- No post-project direction or support for teams
- Lessons become blame sessions
- Lessons are not applied in other locations
- Organisational culture does not recognise value of learning

A reflection on Project Closure from Industry: The ‘B’ Team Syndrome

On larger projects, it is not unusual for the PM to be replaced at formal project closure (ie Final Acceptance) with a new PM – sometimes called the Warranty Manager (WM) - whose job it is to manage Project Wrap up, Minor Outstanding Items and Warranty Claims. Contractors are often keen to move their main project staff on to new projects elsewhere asap.

Some Suppliers / Contractors have a tendency to change over major Project Team members well before Final Acceptance (often immediately after the critical part of project has been delivered).

Industry refers to this as ‘sending in the ‘B’ Team’.

The ‘B’ Team Syndrome (cont.)

Whilst this is not necessarily a problem, especially if an adequate handover is provided, Customers should be aware of potential risks:

- Interruption to project management from need for learning curve, with consequent delays, especially if handover is poor.
- Focus of Contractor moves from finalizing this project onto next project with another customer
- Poor execution of final stages of project in terms of quality, budget and schedule.
- Poor closure re outstanding items, rectifying deficiencies, closing off commercial matters, resolving disputes, conducting reviews etc

For these reasons, Customers often put restrictions in supply contracts on changing senior project team members without approval before certain milestones are reached

More on Project Closure

Biafore B. "***Close a Project***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

Biafore B. "***Learn how to close and transition projects***" video in course Managing Project Foundations, released 28/6/19, LinkedIn Learning accessed through UNSW

A Final Thought

*A good project **plan**, no matter how well conceived or detailed, or tied to organisational strategy, remains only a **wish** without thorough and competent Project Execution.*