Week 1

Sensitivity Analysis consists of:

Select one:

a. Varying one or more parameters to test effect on predicted Payback Period

b. Varying one or more parameters to test effect on predicted Net Present Value

c. Varying only one parameter to test effect on predicted Net Present Value

d. Using Monte Carlo analysis to test effect on payback period

Which of the following is NOT part of a Project Charter:

Select one:

a. Key Stakeholder List

b. Project purpose

c. Measurable Project Objectives and related Success criteria

d. A detailed schedule

A project should be financially analysed from the perspective of :

Select one:

a. Different stakeholders

b. Project Investors and the project contractor

c. Project investors and wider society

d. The customer

Which of the following is unlikely to be a direct factor for project success or failure ?

Select one:

a. The technical requirements were too vague

b. Strong safety culture in the organisation

c. Whether project communication are successful or not

d. The project management strategy is appropriate

Time delay can have which of the following implications on project cost:

Select one:

a. It can increase the cost of government permits

b. It can increase the cost of financing

c. It can compromise the performance of the project

d. It can increase profit margin for the contractor

The Simple Payback method of financial analysis is best suited to projects that

Select one:

a. Are longer in duration and require lower rates of return

b. Are shorter in duration and require lower rates of return

c. Are shorter in duration and require higher rates of return

d. Are longer in duration and require higher rates of return

A Stakeholder Engagement Assessment Matrix rates a stakeholder as “supportive” when:
Select one:
a. Resistant to any changes that may occur as a result of the project
b. Unaware of the project
c. Aware of the project and aware of the work and its outcomes
d. Actively engaged in ensuring the project is a success

Once all stakeholders have been identified, which of the following should be considered:
Select one:
a. A plan to communicate and deal with each stakeholder
b. A plan to prioritise the needs of the largest number of stakeholders
c. A calculation of how much profit can be derived from each stakeholder
d. Analysis of their requirements and expectations

Stakeholder Analysis includes analysing:
Select one:
a. Identification of stakeholders
b. The best way to sideline the stakeholder
c. The stakeholder’s expectations
d. Formulating a communications plan

Which one of the following is used as an input to the project charter:
Select one:
a. Assumption Log
b. Cost Management Plan
c. Business Plan Documents
d. Project Management Plan

Week 2

The project work breakdown structure is foremost a definition of project
Select one:
a. Tasks
b. Scope
c. Work
d. duration

The Project Scope Document should include:
Select one:
a. Scope Description, Draft Budget, Acceptance Criteria and Project Exclusions
b. Scope Description, Deliverables, Acceptance Criteria and Project Exclusions
c. Scope Description, Deliverables, Acceptance Criteria and Risk Analysis
d. Scope Description, Deliverables, Draft Schedule and Project Exclusions

During the pre-project phase, a contractor's sales engineering team usually produces:
Select one:
a. A recommended engineering solution best suited to be completed in the shortest possible time
b. A recommended engineering solution best suited to meet the customer's needs and to win the project
c. A recommended engineering solution best suited to meet the contractor's internal needs
d. A recommended engineering solution best suited to be completed for the lowest possible cost

A feasibility study at the start of a new project is usually commissioned by:
Select one:
a. The investors
b. The project's customer base
c. The environmental approving agency
d. The contractor

If in the project charter you read 'The design solution shall meet applicable Australian standard safety regulations', you are most likely reading the section on:
Select one:
a. Deliverables
b. Benefits
c. Requirements
d. Constraints

The key benefit of the Collect Requirements process is that provides a basis for defining the:
Select one:
a. project budget
b. project schedule
c. project scope
d. project resource requirements

Which of the following would not help to limit risk for a projects that could not be fully defined at the outset?
Select one:
a. Avoidance of a fixed price contract
b. Stage-Gating
c. Use of provisional cost items in fixed-price contracts
d. Avoidance of a variable priced contract

The planned work contained in the lowest level of a WBS is called
Select one:
a. A work task
b. A work package
c. A work item
d. A work coding

Which of the following is not a benefit of using a logical coding system for a WBS?:
Select one:
a. Ability to carry out statistical analyses
b. Reduction in design resource requirements
c. Easy search of design information
d. Easy retrieval of items from past project records

A Scope Management Plan
Select one:
a. Includes a Traceability Structure
b. Includes a process to develop a WBS from the detailed scope statement
c. Includes a requirements prioritisation process
d. Is the same as a requirements Management Plan

Week 3

Which of the following is an advantage of Network Analysis over Gantt Charts?:
Select one:
a. Drawn to Scale
b. A better visual representation
c. Superior Resource planning
d. Shows the logical interdependencies between tasks

Time Limited Scheduling results in a plan that:
Select one:
a. Will not exceed a declared level of available resources
b. Will not exceed a specified completion date
c. Could exceed a specified completion date and declared budget
d. Never exceeds a declared level of available resources and decaled budget

Which of the following costs is an indirect cost?
Select one:
a. Materials Costs
b. Labour Costs
c. Office Rent Costs
d. Manufacturing Costs

Which of the following is an external factor in developing a schedule?:
Select one:
a. Acts of God
b. Technical Capability
c. Supporting Services

d. Organisational Structure

A top-down estimate usually is:
Select one:
a. Done late in the project life history, done on a global comparative cost basis and uses a comprehensive WBS
b. Done late in the project life history, done on a global comparative cost basis and does not use a comprehensive WBS
c. Done early in the project life history, done on a global comparative cost basis and uses a comprehensive WBS
d. Done early in the project life history, done on a global comparative cost basis and does not use a comprehensive WBS

When estimating manufacturing costs without the benefit of detailed design drawings, a usual technique would be to:
Select one:
a. seek a design description off the design engineer and use a cost estimate off the closest similar design available
b. seek a design description off the design engineer and pro-rata cost estimate off a similar design
c. Take whatever time is required to have the design engineer complete design drawings and undertake a detailed estimate off this design
d. Take whatever time is required to have the design engineer complete design drawings and pro-rata cost estimate off a similar design

Bottom-up planning is :
Select one:
a. Task led planning
b. Target led planning
c. None of these options
d. Target and task led planning

A Simple Gantt Chart
Select one:
a. Projects a simple diary plan on a time scale
b. Projects a simple diary plan on a time scale with dependencies and a date cursor
c. Projects a simple diary plan on a time scale with dependencies
d. Is a list of individual tasks with start and end dates

'Total Float' is defined as:
Select one:
a. the amount of float available to a task when all its preceding tasks take place at their latest possible time and all following tasks take place at their earliest possible time
b. The sum of time delays between tasks
c. the amount of float available to a task when all its preceding tasks take place at their earliest possible time

and all following tasks take place at their latest possible time
d. The residue of float available to a task after the project has started

A project's WBS and OBS can be married together to:
Select one:
a. Create a cost account
b. Identify stakeholder engagement requirements
c. Identify a resource
d. Create a detailed schedule

Week 4

Monte Carlo statistical analysis is used:
Select one:
a. To analyse risk in lieu of FMEA analysis
b. To analyse risk in lieu of FEMCA analysis
c. To analyse risk in lieu of fault tree analysis
d. To quantify uncertainty in budget and schedule

Failure Mode Effect Criticality Analysis (FMECA) is an extension of the Failure Mode and Effect Analysis (FMEA) by adding:
Select one:
a. Probability of Occurrence
b. Difficulty of Detection
c. Potential Severity
d. All of the above

Managing risk in an agile environment should entail:
Select one:
a. Using qualitative risk management
b. Using quantitative risk management
c. Formulating a detailed risk management register at the start of the project and sticking to it
d. Formulating and re-analysing risk management strategy at each iteration

Qualitative Risk Analysis involves:
Select one:
a. Quantifying the outcome of a risk event
b. Considering risk in a descriptive way
c. Attaching a numerical score to risk based on mitigating action(s)
d. Attaching a numerical score to risk based on past experience

Insurance is a way of:
Select one:

a. Avoiding risk
b. Transferring Risk
c. Mitigating Risk
d. Accepting Risk

When using a Probability and Impact Matrix like the one in PMBOK Fig 11-5 to assess risk, you would prioritise:
Select one:
a. Low probability/ High Negative Impact risk over a High Probability/ Low Positive Impact risk
b. Low probability/Low Negative Impact risk over a Very Low Probability/ Low Positive Impact risk
c. Low probability/ High Positive Impact risk over a Low Probability/ Low Negative Impact risk
d. High probability/ High Negative Impact risk over a High Probability/ High Positive Impact risk

Including funding for contingency plans in the budget and designing additional float in the schedule would be components of:
Select one:
a. Risk Avoidance
b. Risk Transfer
c. Passive Risk Mitigation
d. Active Risk Acceptance

You would be unlikely to be able to obtain insurance for:
Select one:
a. Loss or damage to property that does not belong to you
b. The risk of bodily harm to employees
c. Professional negligence
d. Damage occurring within 10 years of completion of project resulting from latent defects in design, materials or workmanship

A risk that occurs late in a project is usually:
Select one:
a. More costly in terms of cost and less costly in terms of duration than one that occurs early in the project
b. Less costly in terms of cost and more costly in terms of duration than one that occurs early in the project
c. More costly in terms of cost and duration than one that occurs early in the project
d. Less costly in terms of cost and duration than one that occurs early in the project

Which of the following is an example of a Quantitative Risk Analysis:
Select one:
a. None of these
b. Ishikawa Fishbone diagrams
c. Failure Mode and Effect Analysis (FMEA)
d. Failure Mode Effect Criticality Analysis (FMECA)

Week 5

Opportunity risk responses include:
Select one:
a. Exploit, Mitigate, Accept
b. Share, Escalate, Exploit
c. Avoid, Transfer, Mitigate
d. Share, Enhance, Transfer

As discussed in Flyvbjerg (2006), inaccuracy in cost and time estimates appears more like bias, rather than technical inaccuracy because:
Select one:
a. Psychological and political explanations account for inaccurate forecasts.
b. They are based on poor data
c. The mean of distribution of forecasting errors is far from zero and errors do not appear to improve over time
d. Errors improve (i.e. reduce) over time

As discussed in Flyvbjerg (2006), over a 30-year period for which data is available, predicted passenger numbers for rail projects:
Select one:
a. Is on average 50% too high, and has not improved at all
b. has improved as better estimating techniques were used
c. is unknown
d. Is 40% too high, and has not improved at all

Dennis Lock seems to disagree with PMBOK over the definition of
Select one:
a. quantitative risk analysis
b. Failure mode, effects and criticality analysis
c. qualitative risk analysis
d. How to identify possible project risks

As discussed in Flyvbjerg (2006), optimism bias:
Select one:
a. Is also known as the Planning Fallacy
b. Is partly caused by taking an outside view of projects in the planning and initiation phases
c. is caused by the phenomena that most people judge future events more positively than is justified by actual experience, so they overestimate benefits and overestimate costs.
d. May be mitigated by taking an inside view of projects in the planning and initiation phases

Resources to help identifying possible project risks do not include:
Select one:

a. In fact, all of the possible answers listed for this question are fine.
b. Focus groups, meetings, checklists, case studies, historical projects, surveys
c. Consulting lessons learned from past projects, risk registers from past projects, brainstorming
d. Recent news items, funny stories, the content of the WBS

Which of the following statements about strategic misrepresentation, as discussed in Flyvbjerg (2006), is inaccurate:
Select one:
a. It may be explained by considering political and organizational pressures
b. Project managers have confirmed that it occurs
c. It is deliberate
d. It will not occur in the same project that also shows optimism bias

To illustrate the wide gap between project estimates based on inside and outside view, Flyvbjerg (2006), relates a story about writing a text book
Select one:
a. in which the authors should probably have abandoned the project early on
b. from one of the references in the article, in which the inside view was more accurate
c. to illustrate that teamwork is very challenging but that you can always succeed in the end
d. from his own experience, where the outside view was more accurate

Find the error. Parameters used to characterize a risk can include:
Select one:
a. Probability and impact
b. Urgency, Visibility, Dormancy
c. Connectivity and Propinquity
d. Manageability, Controllability, Detectability

As discussed in Flyvbjerg (2006), cost-benefit ratios for large infrastructure projects are:
Select one:
a. Inaccurate by a few %
b. Inaccurate by a few 10s of %
c. Often wrong by several factors.
d. Fairly accurate

Week 6

Reserve Analysis under Cost Control is used to monitor the status of contingencies and management reserves to see if:
Select one:
a. They are still required
b. Additional contingencies/reserves are required
c. Neither (a) nor (b)

d. Both (a) and (b)

Implementing a total cost approach to planning a project that spans several divisions in an organisation might be challenging because you will need to:
Select one:
a. Develop an integrated schedule
b. Achieve a high level of cooperation among leaders of different divisions in agreeing how to apportion the budget
c. Select one division who will lead the project and receive most of the budget
d. Add up total costs for the project due to work in different divisions

Prerequisites to successful earned value analysis do not include:
Select one:
a. Detailed WBS and cost codes
b. A milestone chart
c. Timely collection and reporting of cost data
d. A method to quantify work-in-progress

In Earned-Value Analysis, a value more that unity for CPI indicates:
Select one:
a. The progress performance against plan is more than intended
b. The progress performance against plan is less than intended
c. The value earned from the money spent is less than intended
d. The value earned from the money spent is more than intended

A funded increase in scope resulting in a change to the project baseline:
Select one:
a. will not change the overall approved budget
b. Will increase cumulative planned value if the new work packages are behind schedule
c. Will increase earned value
d. will increase the actual cost

Total approved budget divided by cost performance index (CPI) gives an estimate of
Select one:
a. Forecast total cost at completion assuming remaining work goes to original plan
b. Nothing - this is not one of the earned value equations
c. Estimate of cost to complete the project
d. Forecast total cost at completion assuming remaining work is completed at current CPI

Unfunded changes to the project baseline:
Select one:
a. Erase the earned value of work packages rendered obsolete by the change
b. Do not need to be included in earned value analysis
c. Change the approved budget of the project

d. Change the planned value of work done to date

Project control as part of project execution does not include:
Select one:
a. Taking corrective action
b. Comparing actual performance agianst the plan
c. Developing the project baseline
d. Identifying deviations

Which of the following is an advantage of Milestone Analysis in comparison with Earned-Value analysis?:
Select one:
a. It can show detailed trends
b. It can easily predict the probable final outcome of the project
c. It takes full account of work-in-progress
d. It requires comparatively little effort

ACWP, BCWP, BCWS are synonymous with, respectively:
Select one:
a. PV, EV, AC
b. AC, EV, PV
c. AC, PV, EV
d. EV, AC, PV

Week 7

A Project Customer and Project End User:
Select one:
a. Are always the same organisation
b. Always have a contractual relationship with the contractor
c. Can be the same or different organisations
d. Are never the same organisation

A scientific research project is likely to be characterised by:
Select one:
a. Massive capital investment
b. Being combined with organisation change projects
c. Regular progress reviews to release funding, to amend, or to cancel project deliverables
d. Delivery for a single customer

Which of the following provides the most complete and correct definition of leadership
Select one:
a. Creating a vision of the future, then persuading and motivating people to achieve it
b. Guiding persons to get from one point to another using debate and discussion

c. Directing people to get from one point to another using a known set of expected behaviours
d. Directing people as opposed to directing things

Critical Path Networks and Gantt Charts were developed:
Select one:
a. Before the advent of modern computers
b. As a result of the 1960s Space Race
c. Once Project Management expanded more generally beyond engineering/IT
d. As a result of the development of modern computers

Assuming an organisation includes both roles, the project manager would report to:
Select one:
a. The project director
b. A planning engineer
c. An executive director
d. A project engineer

In comparison to program management, portfolio management:
Select one:
a. Is a system for managing a group of related projects
b. Is a temporary endeavour
c. Focusses on doing programs and projects in the right way
d. Focusses on managing the right program and projects

According to Mr Hayes' description of three project managers he has known during his career in the power industry, which of the following was not a trait highlighted as being problematic in their behaviour:
Select one:
a. Seeking conflict as the preferred means of dispute resolution
b. Unwillingness to fully delegate technical work
c. Forfeiting leadership to other colleagues for resolving disputes
d. Insufficient communication with the client

In a typical large engineering project, the Design phase usually comes:
Select one:
a. Before project definition phase
b. Before procurement phase
c. After fulfilment phase
d. After the procurement phase

The Project Manager is:
Select one:
a. Principally responsible to the customer for carrying out the project work
b. The person or Organisation that wants to put the end product to use in its own business or to sell
c. The leader of all project activities

d. A person employed to plan and manage project activities to finish on time, within budget and within specification

The Project Manager should have skill sets in:
Select one:
a. Technical Project Management, Strategic and Business Management; and Leadership
b. Technical Project Management, Strategic and Business Management; and Accountancy
c. Accountancy, Strategic and Business Management; and Leadership
d. Technical Project Management, IT; and Leadership

Week 8

During Project Start-up, a Linear Responsibility Matrix should be developed
Select one:
a. Before both the Project Manager is appointed and the Project Organisation is charted
b. Before the Project Manager is Appointed
c. After both the Project Manager is appointed and the Project Organisation is charted
d. After the Project Manager is appointed but before the Project Organisation is charted

An Organisational Structure where the Project Manager's Authority is Moderate to High and the Project Manager has authority over the budget would be classed as
Select one:
a. Balanced Matrix
b. Functional
c. Strong Matrix
d. Project Orientated

The main role of a Project Manager throughout the project cycle is to provide
Select one:
a. Communication
b. Communication and Coordination
c. Communication, Coordination, and Control
d. None of the above

Matrix management of projects has the major disadvantage of
Select one:
a. Hard post-project transition of staff
b. Lack of Ownership
c. Poor integration
d. Infighting over people and resources

A Joint Venture Project Organisation is one where
Select one:

a. One company runs the project and other participants provide key staff as required
b. Two or more participating companies set up a Joint Venture Company that is run and staffed by one of the participating companies
c. Two or more participating companies set up a Joint Venture Company that hires a Project Manager and staffs a project team
d. Two or more participating companies set up a Joint Venture Company that hires a Project Manager from the Customer

A disadvantage of adopting a Pure Project Team Organisation is
Select one:
a. Communications across the various technical and professional disciplines within the project is reduced
b. The Project Manager has sole accountability for the project's outcome
c. The Project Team's Motivation is reduced
d. The corporate technical expertise embedded in the Functions can be overridden by the Project's commercial interests

A key advantage of adopting a matrix project organisation over a functional organisation is
Select one:
a. The Project Manager can co-ordinate inputs from various functions
b. The Project Manager has total authority over Function Heads
c. The Functional Heads have their influence on the project removed
d. The Project Manager's carries total responsibility for project outcome

The key objective of a Project 'Kick-off' Meeting is to
Select one:
a. Outline main features of the project to the Customer's staff
b. Outline main features of the project to senior management
c. Outline main features of the project to the key project contributing managers
d. Outline main features of the project to Company's commercial Dept

When a company adopts the use of a Controlling PMO to manage its project delivery, the PMO would have which level of control over projects
Select one:
a. Low with some power to make recommendations
b. Moderate – providing support and requiring compliance
c. High – PMs directly report to PMO
d. Low – a monitoring brief only

Matrix Project Organisations have which of the following characteristics
Select one:
a. Specialist engineering enhanced within Functions, more stable employment patterns for staff post-project; and inefficient use of resources
b. Specialist engineering enhanced within Functions, more stable employment patterns for staff post-project; and efficient use of resources

c. Specialist engineering enhanced within Functions, less stable employment patterns for staff post-project; and efficient use of resources
d. Specialist engineering isolation, more stable employment patterns for staff post-project; and efficient use of resources

Week 9

In a well-designed project to build a new research facility in a university, 'Project will cost under $2m' is most likley to be:
Select one:
a. A constraint
b. A requirement
c. An assumption
d. A benefit

In a well-designed project to build a new research facility in a university, 'The new equipment will pass its commissioning tests within one month of delivery' is most likely to be:
Select one:
a. A deliverable
b. An assumption
c. A requirement
d. A benefit

In a well-designed project to build a new research facility in a university, 'The facility will provide researchers with unique opportunites' is most likely to be:
Select one:
a. Project scope
b. A constraint
c. A benefit
d. A requirement

In a well-designed project to build a new research facility in a university, 'Design heating and cooling system' is most likely to be:
Select one:
a. A work package
b. A deliverable
c. Project scope
d. None of these

In a well-designed project to build a new research facility in a university, 'People getting sick with COVID-19' is most likely to be:
Select one:
a. An item in the risk register

b. A constraint
c. An assumption
d. None of these

In a well-designed project to build a new research facility in a university, 'check procurement specification against safety regulations' is most likely to be:
Select one:
a. An activity derived from the communications plan
b. A risk transfer activity
c. A risk mitigation activity
d. A contingency activity

In a well-designed project to build a new research facility in a university, activites in the contingency plans:
Select one:
a. Are not part of the project baseline
b. Are funded from the management reserve budget
c. Are in scope
d. Are used to mitigate the occurence of project risks

In a well-designed project to build a new research facility in a university, 'The project will support the university 2025 strategy' is most likely to be:
Select one:
a. A constraint
b. A requirement
c. A benefit
d. Project scope

In a well-designed project to build a new research facility in a university, 'A simulation system to plan processing conditions' is most likely to be:
Select one:
a. A Deliverable
b. A Requirement
c. Project scope
d. A work package

In a well-designed project to build a new research facility in a university, 'Employ forging furnace safety consultant' is most likely a strategy for:
Select one:
a. Avoiding risk of injury to workers during comissioning
b. Transfering risk of injury to workers during comissioning
c. Mitigating risk of injury to workers during comissioning
d. Contingency for risk of injury to workers during commissioning

Which of the following is a reason a project would close successfully

Select one:
a. The Contractor has run out of funds
b. The Project Owner puts project 'on hold' due to adverse changes in business environments
c. Acceptance tests are passed
d. 'Acts of God' such as flood or tempest occur

The Primary reason for issuing a formal project closure documentation is
Select one:
a. To send all construction workers off site
b. To forbid further expenditure incursion
c. To avoid any need for further contract documentation
d. To avoid any need for further scheduling

After formal notification of project closure,
Select one:
a. No documentation can be modified
b. No new expenditure at all can be incurred
c. Additional post-closure expenditure can be authorised for closure activities
d. The Contractor should cease all project related operations

The 'As-Built' condition of a finished project
Select one:
a. Is the same as it's 'As-Designed' condition
b. May differ from the 'As Designed' condition due to changes made during the execution phase of the project
c. May differ from the 'As Designed' condition due to changes made during contract negotiation phase of the project
d. None of the above

Which of the following would typically NOT form part of an 'As-Built' Condition document for the Customer:
Select one:
a. 'As-Built' drawings
b. Purchased Equipment Technical Documentation
c. Design Calculations
d. Purchased Equipment pricing information

Which of the following is NOT part of Wrapping up a Project:
Select one:
a. Getting delivery acceptance from the customer
b. Reassigning project team members
c. Completing the design
d. Closing Accounts and ensuring full payments

Which of the following is NOT a task associated with Project Closure:

Select one:
a. Ensuring that all costs have been charged to the project
b. Undertaking Project Acceptance Testing
c. Reassigning Project staff
d. Reallocating Project Facilities and Equipment

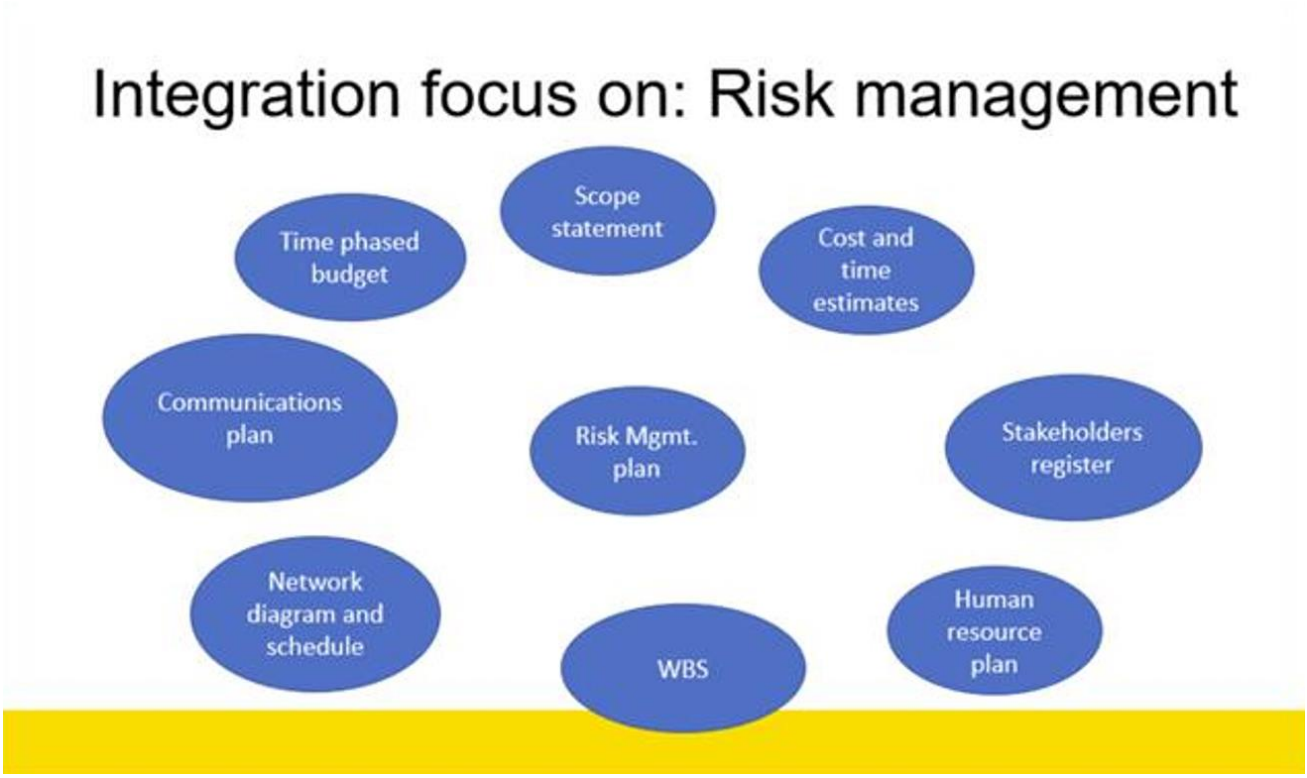
Handing over the project output equipment or service to the long-term operator or maintainer or owner is part of:
Select one:
a. Project Execution
b. Project Closure
c. Project Planning
d. The final task of a project

The Final Project Report provides a summary of:
Select one:
a. Project schedule
b. Project budget
c. Project performance
d. Project profitability

A Project Final Report would NOT include which of the following:
Select one:
a. A summary description of the project
b. Scope Objective
c. Project Manager's performance assessment
d. Cost Objectives

AE 1 (Week 5)

How many connector arrows should there be on the 'Integration focus on: Risk management diagram' and which direction do they point File download(pptx)



select one:

a. 6 arrows pointing in, 3 pointing out, 3 doubles

b. 5 arrows pointing in, 2 pointing out, 2 doubles

c. 4 arrows pointing in, 3 pointing out, 0 doubles

d. 8 arrows pointing in, 3 pointing out, 3 doubles

e. 6 arrows pointing in, 2 pointing out, 2 doubles

AE 2 (Week 6)

You are the Project Manager on a petrochemical plant construction project that is budgeted to cost $40M and take 24 months to complete. It is now at the end of month 15.

The table below shows your earned-value data collected up to this month. Your current forecast variance at completion is $1.5M budget shortfall.

Month 15 Earned Value Raw Data								
Original Budget	Authorized Budget Changes	Authorized current budget	BCWP for month	BCWP Cumulative	ACWP for month	ACWP Cumulative	BCWS (assessed) for month	BCWS (assessed) Cumulative
$40,000,000	$0	$40,000,000	$4,000,000	$32,000,000	$3,900,000	$33,200,000	$3,300,000	$33,000,000

There has been an increase in scope and you are claiming an additional $2.5M from the customer. The customer has disputed their liability for the extra cost and the matter has been sent to arbitration. A decision is due to be delivered by the end of this month, before the overdue work is carried out.

If the $2.5M variation is approved, then the effect of this change on your priorities as PM and your

expectations for your successful completion of the project are:
Select one:
a. Maintain focus on cost savings, increase your priority of expediting remaining activities, and likely to complete the project on budget.
b. Maintain focus on cost savings, increase your priority of expediting remaining activities, but unlikely to complete the project on budget.
c. Relax your focus on cost savings and prioritise expediting remaining activities, and likely to finish the project on budget.
d. Increase your focus on cost savings and reduce effort on expediting remaining activities, and likely to finish the project on budget.
e. The project will be easier to complete with the increased funding, so it is likely to be finished on budget.

AE 3 (Week 7)

Company M is a major Sydney-based investment bank with operations around the world. It plans a major project to install a new computer software system to analyse potential infrastructure investments to determine which are the best to invest in. The new system will be based on an in-house design that will mine large data sets of long term economic data to more accurately predict risk factors and projected long term returns for individual projects. Programming will be subcontracted to outside contract programmers under the management and direction of the nominated Company M project manager.

Infrastructure investment has become one of the main areas of growth and profitability for Company M over recent years. As such, this project will have a high degree of scrutiny from both senior management and the board.

You are Company M's Director of Infrastructure Investments and have been tasked to appoint a suitable Project Manager for this important project. Below are the four shortlisted candidates. Using the weighted scoring table given below, analyse each candidate according to PMBOK's Talent Triangle concepts and choose the candidate most suitable to run this project for Company A.

Candidate A
Company M in Australia – Legal Officer, Investment Analyst – 10 Years
Company M, a competitor investment bank, in New York- Investment Analyst for Bonds market - 2 years
Company M– Singapore - Chief Investment Officer – 3 years
Company M in Australia– Traansport Industry Investment Director – 1 Year
Qualifications: LLB, MBA; Company M Snr Management Course; Member of Law Society; Member of Infrastructure Investors Association

Candidate B
Company B – Aust Wind Farm Developer – Design Engineer-3 years
Company B –Aust Wind Farm Developer – Project Manager – 3 years
Company M Aust – Systems Analyst – upgraded programs to assist investment analysts in Energy Investment Division - 3 years
Company M Australia – Investment Manager – Infrastructure Div – Analysed and managed investments in

Infrastructure across Australia – 5 Years
Company A - Australian competitor - Project Manager on similar successful investment analysis IT upgrade. – 4 Years
Qualifications: BE(Mech), PMI Course in PM; Master of Information Technology, Company A Snr Management Course, Member of Australian Investment Institute
Good Leadership References

Candidate C
Company A, competitor bank, New York, Investment Analyst – 4 years; Investment Manager - 5 years.
Company A Australia – Investment Analyst in Infrastructure – 6 Years
Company A Australia – Head of Energy Investments – Responsible for analysis and implementation of all investments in energy across Australia including maintenance of IT analytical tools – 4 years
Qualifications: BBus, Grad Dip IT; PMI Course in PM; Member of Australian Investment Institute;
Good Leadership References

Candidate D
Company M in Australia – Programmer – 4 years.
Company M in Australia - Systems Analyst – 3 years
Company Q, an Australian Airline – Chief Information Officer – 7 Years
Company M in Australia – Chief Information Officer – 3 Years
Qualifications: B Info Tech; Grad Dip in Info Systems, Member Australian Computer Society;
Limited Leadership References

	Candidate A	*Candidate B*	*Candidate C*	*Candidate D*
TECHNICAL PROJECT MANAGEMENT				
- Career History in developing IT systems for Investment Analysis (20%)				
- Formal PM Qualifications or short PM courses (10%)				
LEADERSHIP				
- Career History of Promotion (15%)				
- Leadership Capacity References (10%)				
- Nomination for Leadership Courses (5%)				

STRATEGIC & BUSINESS MANAGEMENT				
- Career History in Investment Analysis IT Industry (15%)				
- Knowledge of IT (10%)				
- Career History in Company M (10%)				
- Broader Engagement with Investment Analysis IT Industry (5%)				
TOTAL				

Who is the top candidate (most suitable for the position)?

Select one:

a. Candidate A

b. Candidate B

c. Candidate C

d. Candidate D

Who are you not going to invite back for an interview (least suitable candidate for the position)?

Select one:

a. Candidate A

b. Candidate B

c. Candidate C

d. Candidate D

AE 4 (Week 8)

This AE is best read on Sharepoint: https://unsw.sharepoint.com/sites/CLS-GSOE9820_T2_5206_6967/SitePages/AE%20Week%208.aspx

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The 737 has been the largest selling plane in history, It's design has evolved from its1960s origins and has been Boeing's cash cow since 1980s. Boeing's long-term plan for the 737 was to sell it without major modifications until the late 2020s before replacing it with a completely new design.

However, in 2012, Airbus decided to upgrade/re-engine its more modern A320 competitor. Traditional Boeing airline customers expressed interest in the A320, especially because Airbus could offer them a more fuel efficient aircraft without the need for expensive crew retraining. This forced Boeing to quickly revise their strategy and develop a further evolution of the 737 to match the A320.

Boeing's **dedicated project team** drove the redesign of the 737 within the above and within a very short 3-year schedule.

Unfortunately, compromised engineering led to the 737-Max crashes of 2018-19, resulting severe financial pain for Boeing and a trashing its long held engineering reputation in the industry.

Consequences of the 737-Max Crash Crisis: Following the crisis, the Boeing Board then undertook a review Boeing's overall strategy, culture and organisation of its aircraft development projects to plan how it will; regain market trust, repair its engineering reputation and lift its severely weakened commercial position. The review determined that:

- Future aircraft development programs should return Boeing to a position of being the industry leader, delivering products at the cutting edge of aerospace technology
- The full technical resources of the company residing within its engineering functions need to be harnessed on future projects to ensure Boeing's reputation for safety and reliability is maintained;
- Future Projects will need to be undertaken with strict commercial discipline, given the company now finds itself in severe financial distress.

You have been hired as a consultant to develop this strategy with regards to how new development project should be organised.

Further background

History: Boeing and McDonnell-Douglas were the dominant players in commercial aviation up until the 1980s. Boeing was the larger and more successful of the two and had an engineering culture with strong **functional organisation** along engineering discipline lines. It ran innovative new aircraft development projects using a **weak matrix structure** with strong input from the functions.

McDonnell Douglas had a commercial culture that looked to lower risk evolution of existing designs rather than start new ones; and ran its aircraft development projects using a **dedicated project team** basis with staff seconded from the functions; and a strong commercial focus.

With the rise of European Airbus, and McDonnell-Douglas's own relative decline, it decided to seek a merger with Boeing in the 1990s to form a larger, more powerful American competitor. However, to the surprise of many at the time, most senior management positions after to merger went to ex-McDonnell-Douglas people who began a process of changing Boeing's culture towards that of the former McDonnell-Douglas, including running aircraft development projects using a **dedicated project team** to prioritise cost and time management.

Increasingly, commercially focused PMs were sourced from outside of the aerospace industry, especially from the automotive industry, rather than Boeing's previous practice of sourcing PMs internally from their

engineering functions.

This change in culture at Boeing had the desired effect of quickly improving financial results, increasing profitability and substantially boosting the share price.

AE Question

As a first step, complete a review of the situation using the table below. Then use the results to make a recommendation on which of the following should be adopted:

Select one:

a. The Functional Organisation

b. A Weak Project Matrix arrangement

c. A Balanced Matrix structure

d. A Strong Matrix structure

e. A dedicated project team structureFeedback

Include your working in this table in case you need to submit an appeal this week. Your appeal argument can be based on what you include in this table.

Question	*Answer*
What is the Organisation's history, size and culture?	
What is the Organisation's current project structure (if any)?	
Recent organisational project performance relative to competition? Is there a need for change ? If so, what areas of project delivery need improvement?	
Project Objectives Priority(ies) as set by Senior Management?:(eg financial, technical performance outcomes, long term business reputation)	
Is the project part of organisation's ongoing business or a special "one off" ?	
Resources Available?	
Size and Scope of Project and disciplines involved?	
Expected duration of Project?	
Complexity of Technology? Does the project have high/special public safety standards?	
Proprietary nature of technology involved?	
Proportion of project related to logistics?	

AE 5 (Week 9)

For this AE, use your knowledge of project management, and the insight you gained into the MM cell challenge by working on your own team's project plan.

Evaluate the Dream Team's MM cell project plan in terms of its major strengths and weaknesses in the lower two 'layers of abstraction' for engineering project management (see video by Edward wk9 Videos)

Q1 Main Strengths

	A	B	C	D	E
2. Project planning	Cost and time estimates	Risk management	Communication strategy	Alignment with Org. strategy	HR planning
1. Project scope and deliverables	Materials and manufacturing hardware			Exciting mix of software, sensors, and hardware	

Q2 Main weakness

	A	B	C	D	E
2. Project planning	Risk management	Cost and time estimates	HR planning	Alignment with Org. strategy	Communication strategy
1. Project scope and deliverables	Technical integration challenges			Feasibility of main outcomes	

Question Text:

	A	B	C	D	E
2. Project planning	Cost and time estimates	Risk management	Communication strategy	Alignment with Org. strategy	HR planning
1. Project scope and deliverables	Materials and manufacturing hardware			Exciting mix of software, sensors, and hardware	

IF YOUR ANSWER IS E, TYPE IT IN THE BOX FOR QUESTION 3.

Select one:

a. A
b. B
c. C
d. D

Question Text:

	A	B	C	D	E
2. Project planning	Risk management	Cost and time estimates	HR planning	Alignment with Org. strategy	Communication strategy

1. Project scope and deliverables	Technical integration challenges	Feasibility of main outcomes

Select one:

a. A

b. B

c. C

d. D

e. E