

BSB51415 Diploma of Project Management



Constraint Management

Version 1.11 Produced 18 October 2018

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Version control & document history

Date	Summary of modifications made	Version
5 May 2016	Version 1.0 produced following Training Package update	1.0
22 June 2017	Updated Table of Contents	1.1
18 October 2018	Change to Practical Assessment	1.11

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ASSESSMENT WORKBOOK COVERSHEET

WORKBOOK:	Workbook 2
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Please read the Candidate Declaration below and if you agree to the terms of the declaration sign and date in the space provided.

By submitting this work, I declare that:

- I have been advised of the assessment requirements, have been made aware of my rights and responsibilities as an assessment candidate, and choose to be assessed at this time.
- I am aware that there is a limit to the number of submissions that I can make for each assessment and I am submitting all documents required to complete this Assessment Workbook.
- I have organised and named the files I am submitting according to the instructions provided and I am aware that my assessor will not assess work that cannot be clearly identified and may request the work be resubmitted according to the correct process.
- This work is my own and contains no material written by another person except where due reference is made. I am aware that a false declaration may lead to the withdrawal of a qualification or statement of attainment.
- I am aware that there is a policy of checking the validity of qualifications that I submit as evidence as well as the qualifications/evidence of parties who verify my performance or observable skills. I give my consent to contact these parties for verification purposes.

Name : Nazeem Ajez

Signature:



Date:

22/10/21

WRITTEN QUESTIONS

Part 1 – Project Scope

1. Which of the following are project initiation documentation required at the start of the project?

Select all that apply.

☐	a. Communications log
☒	b. Project plan
☐	c. Work Breakdown Structure (WBS)
☐	d. Gantt Chart
☒	e. Project charter
☐	f. Risk management

2. Which of the following are components of a project scope-management plan?

Select all that apply.

☒	a. Project deliverables
☐	b. Project staff assignments
☐	c. Change request
☒	d. Project justification
☒	e. Product description
☐	f. Performance reports
☒	g. Project objectives
☐	h. Project funding requirements
☐	i. Quality metrics
☐	j. Budget forecasts

3. In your own words, discuss how project time and cost affect the project scope. Do not exceed 100 words.

The project time and cost have direct impacts to the project scope. The time and cost of a project must be determined and assessed alongside the scope in order to determine if the project completion deadline can be met and to assess if the project has the potential to produce a profit, rather than a loss.

The project scope may change during the duration of the project and hence the project time and cost are tools utilised to assess the project throughout any changes (i.e. contract variations and scope increases).

4. Which of the following are events or problem areas relating to project scope that could trigger the need for a formal change request?

Select all that apply.

☒	a. The deliverables may not meet quality requirements.
☐	b. Grammatical and typo errors are found in the project initiation documents.
☒	c. The deliverables may not be what the client wanted, even though they were covered in the project plan.
☐	d. The stakeholder considers the change request and advises the project manager.
☐	e. Observance of non-working holidays affecting project time.
☒	f. Additional quality requirements (such as new legislation or changes in standards) will render the deliverables non-compliant.
☒	g. Failure of equipment needed to produce the deliverables.
☐	h. Missing documentations in the project's information system.
☒	i. Raw materials are no longer available.
☒	j. Supplier or contractor closing business.

5. Which of the following are procedures that typically must be followed under change control processes?

Select all that apply.

☐	a. Project manager seeks advice from supervisor regarding changes in cost.
☐	b. Project manager assigns a project team member to recalculate for the critical path.
☒	c. Project manager provides the change request to the appropriate stakeholder for approval.
☒	d. The stakeholder considers the change request and advises the project manager.
☒	e. The project manager updates the project plan and other documentation where required.
☒	f. Project manager drafts the change request.
☐	g. Project manager delegates the authority to the project team members in advising other stakeholders of the changes.
☒	h. The project manager advises relevant stakeholders (sponsor, team members, etc.) of the changes.
☒	i. Details of the proposed change to be communicated to the project manager.
☐	j. The project sponsor and owner may automatically terminate the project contract.

6. The following are methods of measuring work outcomes and progress against plans. Match each method to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Method	Description
c.	Units completed	a. Also known as the 'steps' method, this is used for projects that involve subtasks that need to be completed in an orderly fashion.
a.	Incremental milestones	b. In this method, tasks that are being calculated tend to occur over a longer duration time and include multiple subtasks, where subtasks can have different units of measurements.
d.	Start / finish	c. This method is used when project tasks are done repeatedly. Assuming that each task is completed at the same amount of time, resources and effort, each task is counted and totaled.
b.	Weighted or equivalent units	d. This method is used to determine the percentage of the work completed and the percentage of the work that is still yet to be completed.

7. Which of the following are activities involved in decomposition of the total work project?

Select all that apply.

☐	a. Summarise project tasks in the form of a written report.
☒	b. Identify and analyse the deliverables and related work.
☒	c. Structure and organise the work breakdown structure (WBS).
☐	d. Arrange the smallest project tasks to form an aggregate representation of the total project task
☒	e. Decompose the upper work breakdown structure (WBS) levels into lower level detailed components.
☐	f. Calculate duration and resource effort for each project task.
☒	g. Develop and assign identification codes to the WBS components.
☐	h. Inspect whether work and deliverables meet requirements and product acceptance criteria.
☐	i. List resources required for each project task.
☒	j. Verify that the degree of decomposition of the work is necessary and sufficient.

8. List three (3) ways in which the Work Breakdown Structure (WBS) can be created.

- a. Using phases of the project lifecycle as the first level of decomposition, with the product and project deliverables inserted at the second level;
- b. Using major deliverables as the first level of decomposition
- c. Using subprojects which may be developed by organization outside the project team such as the contracted work.

9. The following are some problem areas in scope management. In your own words, briefly discuss each problem area.

Do not exceed 100 words for each discussion.

Problem areas	Discussion
Scope creep	Scope creep is where there are minor adjustments/ additions to the scope throughout the lifecycle of the project. Over time, these minor additions to the scope make a substantial difference. The project manager may overlook these changes on a day-to-day scale, and hence a high level change management process is required to ensure scope creep does not negatively affect the project.
Sponsor / project owner approval	The sponsor/ project owner approval may result in cancellation of the change request or delays in the project if approval is not provided in a timely manner. This occurs as the sponsor/ owner may not be able to afford the extra expenses resulting from the change request. Further delays may be faced if the sponsor decides to pursue additional quotes from other contractors/ companies in order to determine feasibility of the provided price associated with the change request.
Project team accountability	The project team are accountable for many aspects of the project and hence, occasionally, there may be an error and the team does not get the task completed correctly which results in project delays. These instances would result in going back to rework, which directly affects the time and cost of the project, especially if a change request is not feasible. Additionally, if a change request is put forth by the sponsor, the team may have previous tasks and are unable to conduct the works for the change request, which would also result in the project being delayed.

10. In your own words, discuss the significance of scope management.

Do not exceed 150 words.

Effective scope management is a crucial part of any project and assists in ensuring the team are aware of what is required from the project and from them as team members. Scope management enables the project to run as per the original plan regarding the program timeframes and project budgets. Additionally, if the scope is managed correctly, all minor alterations, changes, variations or scope increases would be covered and incorporated into the project time program and budget (after approval from the project sponsor/ owner for each change request).

Therefore, an effective scope management is highly significant to any project and would assist in resulting in a successful outcome with the project deadlines being met and budgets not blown.

11. The *PMBOK Guide* outlines the following processes in project scope management. List one (1) tool or technique used in each process.

Project Scope Management	Tool or technique
Collect requirements	Interviews
Define scope	Product Analysis
Create WBS	Decomposition
Verify scope	Inspection
Control scope	Variance Analysis

12. Consider the roles and responsibilities of the project manager in project planning. List five (5) roles of the project manager in project planning and list at least one responsibility for each of these roles.

Roles (list five (5))	Responsibilities (List at least one (1) for each role)
Understanding the Project	The project manager must fully understand and know the reason why the project is initiated.
Scope Management	The project manager must ensure that they have taken down all the requirements and turned them into work packages that will soon be deliverables.
Time Management	The project manager is responsible for scheduling the project and comping up with the schedule baseline.
Cost Management	The project manager is responsible for coming up with the cost baseline.
Quality Management	The project manager must define what good quality means in your project from your stakeholders and plan the QA and QC activities to achieve them.

Part 2 – Project Time

- The following are estimation tools and techniques used in determining duration. Match each tool and technique to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Estimation tools and techniques	Description
b.	Analogous estimating	a. This technique uses a statistical relationship between historical data and other variables to calculate an estimate for activity duration.
a.	Parametric estimating	b. This uses parameters such as duration, budget size, weight, and complexity, from a previous, similar project, as the basis for estimating the same parameter to measure for a future project. This technique relies on the actual duration of previous, similar projects as the basis for estimating the duration of the current project.
e.	Three-point estimating	c. This is guided by historical information. It provides duration estimate information or recommended maximum activity durations from prior similar projects. This can also be used to determine whether to combine methods of estimating and how to reconcile differences between them.
c.	Expert judgement estimating	d. Contingencies are accounted for into the overall project schedule to account for schedule uncertainties.
d.	Reserve analysis	e. This technique uses a mathematical formula to determine a weighted average of estimates. It uses the formula: $Te = \frac{To + 4 \times Tm + Tp}{6}$.

2. The following are estimation tools techniques used in determining activity resource. Match each to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Estimation tools and techniques	Description
d.	Expert judgment	a. Several companies or organisations routinely distribute updated production rates and unit costs of resources for an extensive array of labour trades, material, and equipment for different countries and geographical locations within countries.
e.	Alternative analysis	b. In this technique, when an activity cannot be estimated with a reasonable degree of confidence, the work within the activity is decomposed into more detail. The resource needs are estimated. These estimates are then aggregated into a total quantity for each of the activity's resources.
a.	Published estimating data	c. This tool has the capability to help plan, organise, and manage resource pools and develop resource estimates.
b.	Bottom-Up estimating	d. This technique is often required to assess the resource-related inputs to this process. Any group or person specialised with knowledge in resource planning and estimating can provide such expertise.
c.	Project management software	e. These include using various levels of resource capability or skills, different, size or type of machines, different tools (hand versus automated), and make-or-buy regarding the resource.

3. In identifying the critical path, the following parameters need to be determined for each task. Discuss each parameter.

Do not exceed fifty (50) words for each discussion.

Parameter	Discussion
ES	Earliest Start Time – The earliest time at which the task can start, given that any predecessor tasks must be completed first.
EF	Earliest Finish Time – The earliest start time for the task plus the time required to complete the task.
LF	Latest Finish Time – The latest time at which the task can be completed without delaying the project.
LS	Latest Start Time – The latest finish time minus the time required to complete the task.

4. Which of the following statements accurately explain the process of developing the project schedule, including the schedule baseline?

Select all that apply.

☒	a. Developing the schedule is the process of analysing activity sequences, durations, resource, requirements, and schedule constraints to create the project schedule.
☒	b. The project schedule and schedule baseline are developed or established using the activity lists, activity attributes, project scope statement as the bases.
☒	c. Entering the activities, durations, and resources into the scheduling tool generates the schedule baseline.
☐	d. Tools and techniques used in developing the project schedule and schedule baseline include decomposition of the total project work.
☐	e. Developing the schedule baseline starts and ends in the planning phase of the project.

5. Schedule control is the process of monitoring the status of the project to update project progress and manage changes to the schedule baseline.

Which of the following are processes that are involved in schedule control?

Select all that apply.

☒	a. Determining the current status of the project schedule.
☐	b. Defining activities or specific actions to be performed to produce project deliverables
☒	c. Influencing the factors that create schedule changes
☐	d. Decomposing total project work into its lowest levels.
☒	e. Determining that the project schedule has changed
☐	f. Estimating duration and resource effort for the project.
☒	g. Managing the actual changes as they occur.

6. Consider the methods used in project time management.
 - a. In your own words, discuss the application/use of the Gantt Chart. Do not exceed fifty (50) words.
 - b. List three (3) project data generated from the Gantt Chart.
 - c. List three (2) limitations of the Gantt Chart.

- a. Gantt Charts are used as a tool for project time management. The purpose of a Gantt Chart is to portray the project tasks visually and provide a breakdown of tasks, including the activities which are linked with other various activities throughout the full project cycle.
- b. Project completion date.
Project duration.
Project scope broken down into activities.
- c. Updates required to the Gantt Chart if there are any scope adjustments.
Visual parameters may be hard to adjust for each specific task, i.e. hours vs days.
Large projects with many links between activities are hard to understand through the use of one Gantt Chart.

7. Consider the methods used in project time management.
- a. In your own words, discuss the application/use of the Critical Path Method. Do not exceed fifty (50) words.
 - b. List three (3) project data generated from the Critical Path Method.
 - c. Discuss the limitation of the Critical Path Method. Do not exceed fifty (50) words.

- a. The Critical Path Method for project time management is used to understand the exact tasks which are critical to be completed in order to complete the project and meet the project deadline. This method identifies all critical elements in the project.
- b. Critical activities in the project scope.
Earliest Start, Earliest Finish, Latest Start, Latest Finish date for each task.
Other activities which may be completed in conjunction with critical tasks.
- c. The non-critical tasks could potentially be overlooked as the project focuses on completing the critical path activities. Once overlooked, tasks may become part of the critical path and hence have direct impacts on the project duration. Additionally, the team must be understanding of the critical path tasks when undertaking the project, or this method may not be effective.

8. The following are tools and techniques used in project scheduling. Match each tool and technique to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Project scheduling tools and techniques	Description
b.	Schedule network analysis	a. This is the process of looking at all of the activities that must be completed, and calculating the 'best line' – or critical path – to take so that you'll complete the project in the minimum amount of time. The method calculates the earliest and latest possible start and finish times for project activities, and it estimates the dependencies among them to create a schedule of critical activities and dates.
a.	Critical Path Analysis	b. This is a graphic representation of the project's activities, the time it takes to complete them, and the sequence in which they must be done. Project management software is typically used to create these analyses. Common formats for this include Gantt Charts and PERT Charts
d.	Schedule compression	c. They expedite the scheduling process by generating start and finish dates based on the inputs of activities, network diagrams, resources, and activity durations.
c.	Automated scheduling tools	d. This tool helps shorten the total duration of a project by decreasing the time allotted for certain activities. It's done so that you can meet time constraints, and still keep the original scope of the project.

9. Which of the following statements accurately explain the work breakdown structure (WBS) including its application in project schedules?

Select all that apply.

☒	a. Work breakdown structure (WBS) is the subdivision of project deliverables and project work into smaller, more manageable components.
☐	b. The work breakdown structure (WBS) identifies project personnel who are responsible for each project task.
☒	c. Work breakdown structure (WBS) helps define activities of the project which provide the basis for estimating, scheduling, executing, and monitoring and controlling the project work.
☐	d. The work breakdown structure (WBS) is used to represent the full project scope of the project.
☒	e. The work breakdown structure provides the relationships among all components of the project and the project deliverables.
☒	f. The work breakdown structure (WBS) is used as the basis for the scope baseline which is used in identifying activities or specific actions to be performed to produce of the project deliverables.
☐	g. Project work at lowest levels are not included in the work breakdown structure (WBS)

Part 3 – Project Cost

1. The following are processes involved in project cost management including budgeting the cost of the project. In your own words, discuss each.

Do not exceed fifty (50) words for each discussion.

Estimating costs	Estimating costs is the procedure in which the costs for a project/ task/ activity are approximated by the team and/or project manager, to come to an understanding of what the budget will be. The team utilises their previous experience/ projects as a guide to estimate the work at hand.
Determine budget	Determining the budget is required in order to come to a baseline value for the task/ activity or whole project. This budget is determined at the planning phase of a project and is adhered to throughout the lifecycle of the project in order to meet the budget and win profit.
Control cost	Control cost is the process in which the project team and manager assess the works throughout the project and compare them to the budget originally determined. If there are examples where the tasks are performing over budget, adjustments are to be made in order to bring costs back down.

2. The following are different tools and techniques used in cost management. Match each to its correct description.

Write the letters that correspond in the spaces provided.

	Strategy	Description
b.	Analogous estimating	a. This is used to establish both the contingency reserves and the management reserves for the project with regards to cost.
c.	Parametric estimating	b. This strategy uses the values of costings from a previous, similar project as the basis for estimating the same parameter or measure for a current project. This is used when the current project is similar to a previous one in terms of defined parameters.
e.	Cost aggregation	c. This uses a statistical relationship between historical data and other variables to calculate and estimate for cost. This technique is used to produce higher levels of accuracy depending upon the sophistication and underlying data built into the model. Estimates made through this project can be applied to the whole project or to segments of a project.
a.	Reserve analysis	d. These are used to develop mathematical models to predict total project costs.
d.	Historical relationships	e. Cost estimates are combined by work packages in accordance with the Work Breakdown Structure. The work package cost estimates are then combined for the higher component levels of the WBS and ultimately for the entire project.
g.	Earned value management	f. In this technique cost performance measurements are used to assess the magnitude of variation to the original cost baseline.

f.	Variance analysis	g. This is commonly used as a performance measurement. It integrates project scope, cost, and schedule measure to help the project management team assess and measure project performance and progress.
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3. List four (4) processes which are followed in monitoring the project costs against outcomes to ensure that additional expenses are not incurred.

- | |
|--|
| <ul style="list-style-type: none"> a. Using an effective tool for managing the project finances (could be a spreadsheet or financial management software package). b. Sending invoices on a regular (or monthly) basis. c. Paying invoices promptly. d. Checking incoming invoices against contracts, quotes, agreements, etc. |
|--|

4. You are appointed as one of the Project Managers of Bigger than Big Corporation. As one of the Project Managers, it is essential that you have a full understanding of the organisation's policies and procedures relevant managing projects within Bigger than Big.

Review Bigger than Big Corporation's [Project Management Policy and Procedures](#) (username: cstclearner password: CstcPty@123).

- a. In your own words, discuss the organisation's Project Management Policy, including its background, purpose, and its scope.
- b. In your own words, discuss the organisation's Project Management Procedures including their purpose and scope.
- c. In your own words, list and discuss the Project Phases prescribed in the organisation's Project Management Procedures.

Do not exceed 100 words for each discussion.

- a. Bigger Than Big (BTB) is a corporation which is committed to conducting project management techniques using a standard approach. The Project Management Policy is designed to provide the minimum essential parameters in the management of their projects. The purpose of the policy is to ensure the company is conducting project management in a uniform manner throughout all their projects. The scope and objective of this policy is to ensure BTB projects are undertaken using the project management model generated by BTB which accommodates all project needs across the corporation.
- b. The Bigger Than Big (BTB) Project Management Procedures outlines the processes and responsibilities required from the management team on any of BTB's projects. The purpose of the document is to define and outline these processes in depth. The scope and objective of the policy is to ensure all BTB projects are undertaken using defined phases and the projects adhere to a formal project management methodology.
- c.
 1. Pre-initiate phase – This is where the problem is identified and the need for the project is confirmed.
 2. Initiate phase – This is where the planning phase will commence, and the team will determine how the project will be executed.
 3. Plan phase – This is where further planning is undertaken in additional detail to determine each task and the project schedule is defined, along with the budget.
 4. Implement phase – This is the phase where the project is underway, and tasks are being completed as per the plan.
 5. Close phase – This is where the finished product is handed over and evaluation undertaken.

Part 4 – Project Quality

1. In your own words, discuss each of the following key concepts in Quality Management.

Do not exceed 100 words for each discussion.

Key Concepts in Quality Management	Discussion
Customer satisfaction	Customer satisfaction is a highly important concept to consider in any project. If the customer is satisfied, then it can prove that the quality of the project was of high standard. If the customer is not satisfied with the product, they are likely to think the project quality is not of a high standard. Hence, it is extremely important to ensure the customer is satisfied throughout all phases of the project and ensure liaison is handled well.
Prevention over inspection	Prevention over inspection is a key concept in quality management for any project. The aim is to ensure the works undertaken are to a high standard and as per the project drawings/ specs/ standards, at all phases of the project. The cost of ensuring this is met would be much less than the cost of rectifying any nonconformances, hence this concept is also a good tool to understand when looking at budgets of a project.
Continuous improvement	Continuous improvement is another key concept of quality management. It is the process of trying to better the team/ projects/ company's processes, services, products, team members, systems, etc. This is not only applicable to the one project but to a company as a whole, previous projects and lessons learnt will ensure the company is continuously improving in order to achieve greater goals.

2. In your own words, discuss the difference between Quality Assurance and Quality Control.

Do not exceed 100 words.

Quality Assurance is the act of ensuring the project processes are as per the required drawings/ specs and standards throughout all the phases of the project. These techniques include, reviewing, training, facilitating and auditing tasks on the project. On the other hand, Quality Control is the act of ensuring the final product is compliant and has undertaken the required testing to detect any defects or concerns. The inspection outcome is then reported back to the management team to determine if the product can be allowed or denied (resulting in reworks and rectification, if required). QA is process orientated; QC is product orientated.

3. The following are standards that could apply in various projects. In your own words, discuss each standard. Do not exceed fifty (50) words for each discussion.

People standards	People standards outline the requirements of the personnel hired on the project. It is a key factor on any project and hence it is very important to ensure the personnel hired are the qualified and have the required experience for the tasks at hand.
Process standards	Process standards are the review and auditing of the quality of the processes in place on a project. For example, an audit can be undertaken on a project to determine if the current ITP (Inspection Test Plans) are compliant and run effectively, or improvements are required.
Product / service standards	Product/ service standards are to be adhered to in all parts of the project and have a direct impact on the quality management on a project. The standards may include the Australian standards, or the project specific standards generated by the client and or superintendent.

4. The following are quality assurance and control methods, techniques and tools. Match each to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Methods, tools, techniques	Description
h.	Benchmarking standards	a. This is a distribution of dots comparing two variables. If the two variables are completely independent you would expect the dots to be evenly distributed randomly across the graph. If there is a strong relationship though, the graph will show a straight line or a mathematical curve going through it.
g.	Brainstorming sessions	b. These are graphical representations showing a visual impression of the distribution of data. Usually it shows the frequency up the Y axis of the bar graph and the measuring variable along the X axis.
d.	Control charts	c. It is a graph where the X axis is time dependent. This allows you to look for time-based cycles in processes.
f.	Flowcharts	d. These are also known as Shewhart charts or process-behaviour charts. These charts are used to statistically measure the quality characteristics of a process are under control. This is based on a statistical analysis where a centre line is drawn for the mean of the output, then an upper control limit and a lower control limit is created either side of the centre line. The process is then measured over a period of time and the results plotted on the graph. Once the graph has been created, it can be analysed to test the stability of the process and also any cycles of errors.
b.	Histograms	e. It is very similar to a histogram, but it includes a line over the graph indicating the cumulative distribution of the results.

e.	Pareto charts	f. A diagram that represents a process. It shows the steps visually as a series of boxes with arrows in between them showing the work flow. Rectangular boxes represent tasks and diamond shaped boxes represent decision points, where the flow can split into two or more directions.
c.	Run charts	g. It occurs when a group meets and is presented with a scenario where they creatively come up with a range of solutions.
a.	Scatter grams	h. These may be dictated to by legislation through Federal, State or Local Government regulations, and may be dictated by industry bodies.

5. List five (5) responsibilities of the project manager in quality management.

- a. Determining the quality standards for the project deliverables.
- b. Determining the quality standards for the project processes.
- c. Documenting all the required standards in the project plan.
- d. Ensuring all organizational quality requirements are met for the delivery of the project.
- e. Leading, or at least coordinating, project QA and QC activities.

6. The following are methods used in managing continuous improvement. In your own words, discuss each method.

Do not exceed fifty (50) words for each discussion.

Six Sigma	Six Sigma is a set of techniques to improve processes in the project. This method is used to determine any potential defects and remove the causes to ensure they do not occur. This is also used to decrease variability in the business processes.
Lean Six Sigma	Lean Six Sigma is a collaborative approach by all team members to improve the performance of the project by removing waste systematically. The aim is to remove any concerns in performance in Time, Inventory, Motion, Waiting, Overproduction, Over-processing, Defects and Skills.
Total Quality Management	This is a comprehensive/ structured approach that aims to improve the quality of the products and services in all areas of the project/ company. This is done by making ongoing alterations and adjustments to processes in response to feedback provided by customers, team members and the public.

CASE STUDY

Instructions to Student

These case studies are hypothetical situations which will not require you to have access to a workplace, although your past and present workplace experiences may help with the responses you provide. You will be expected to encounter similar situations to these in future as you work in a project team environment.

In the real world you are likely to encounter the situation where you enter a project, taking over from another project manager. The documentation that is handed over to you is not necessarily up to scratch, and there could be serious issues with the project. This assessment captures that real life scenario.

The case studies are the first part of dealing with “multiple complex projects” required in all the units of this subject. The other assessment covering this requirement is the practical assessment. When you have completed the case studies you will be able to commence the practical assessment which covers the generic skills needed to function as an effective project team member. This assessment on the other hand covers the application of the underpinning knowledge and background theory.

Introduction

You have been appointed as a project management consultant to the project team at Awesome Landscapes Pty Ltd. Specifically, you are required to provide independent advice on seeing their current project throughout its entire lifecycle.

You have already provided advice to Awesome Landscapes in the previous workbook.

Today is 24 July 20xx. The project will shortly progress into the implementation stage. You have now been provided with up-to-date project documentation below, including an updated Project Plan. The project steering committee have reviewed the Project Plan, but they wish to have you conduct an independent evaluation of the project prior to signing it off.

As part of your consultancy services, you will be assisting the team in addressing issues around project constraints by answering the questions that follow this scenario.

The documents you need to complete the succeeding tasks can be accessed through the following links:

[Project Charter version 2 \(.pdf\)](#)

[Project Plan version 2 \(.pdf\)](#)

[Project Gantt Chart version 2 \(.mpp\)](#)

[Project Gantt Chart version 2 \(.pdf\)](#)

[Project Network Diagram version 2 \(.pdf\)](#)

(username: cstclearner password: CstcPty@123)

Note: These documents were generated in year 2016. For the purpose of this assessment, refer to ‘2016’ as the current year and ‘2017’ as the succeeding year.

1. List the three (3) project deliverables in Phase 1.

- a. Removal of vegetation in areas being cleared and replanting/ maintaining the plants for replanting in stage 3.
- b. Access roads through the existing forest for builders to access each building site.
- c. Retaining walls to provide stability around the buildings. Includes three additional retaining walls as per updated site plan.

2. Discuss the project constraints in terms of scope, time, cost, and quality.

Scope	The natural environment must be carefully preserved as per the strict Council requirements for environmentally sensitive areas. The landscaping work must work around the building construction.
Time	Completion of all work within nine months.
Cost	Fixed budget of \$550,000 + GST.
Quality	Other conditions imposed by Council.

3. Review the project schedule as set out in the Project Plan and the Gantt Chart Arrange the following tasks in the proper sequence as dictated in Phase 3 of the critical path.

Write 1 – 12 in the spaces provided; where 1 go first and 12 go last.

8	Remove weeds
11	Plant additional plants
2	Move gravel to car park
1	Expand car park
12	Remove greenhouses
9	Plant plants from greenhouses
3	Seal car park
6	Soil preparation
7	Add boulders

5	Construct stone paving pathway
10	Purchase additional plants
4	Landscape over old access roads

4. Review the Project Plan. The change request has outlined one change in the scope of the project.
 - a. What is the change in scope?
 - b. How does this change in scope impact the overall duration of the project?
 - c. How does this change in scope impact the quality aspect of the project?

- a. Addition of three new retaining walls and services to additional units as per updated site plan. Increase in cost of road gravel by \$6,500.
- b. This scope increases the overall duration of the project by 1 week as it is required to start a week early than planned (27th July 2016 instead of 3rd August 2016).
- c. The quality aspect of the project should not change as the project initially included retaining walls. The three new retaining walls will be installed as per the original project quality control for the original retaining wall design.

5. Why does the change request only list one change in project cost, yet when you look at the financial tables the costs seem to have increased in numerous parts of the project not even related to the item in the change request?

Do not exceed 100 words.

The change request only outlines the one change in project cost of \$6,500 due to the increase in cost of road gravel. The other changes relating to the retaining walls result in a change to the procurement plan with J.P Digging for more funding, hence the other costs increases are covered with the funding.

Additionally, the project is a fixed price contract, so the funds provided will be the same regardless of any project extensions, variations in scope, or increase in cost of labour, procurement or purchases.

6. Who is responsible for working out these impacts of what initially seemed to be such a simple change, and ensuring all affected stakeholders understand the impact of such a change?

The project manager is responsible to ensure all project personnel, subcontractors, suppliers, stakeholders and the client understand the full impact of the change request.

7. Access and review the Gantt Chart version 2.
 - a. What important tasks are not included in the project Gantt Chart?
 - b. Discuss why these tasks must be included in the Gantt Chart? Keep your discussion within 100 – 200 words in length.

- a. The project mobilisation and demobilisation tasks are not included in the Gantt Chart.
- b. The mobilisation and demobilisation tasks must be included in the Gantt Chart to ensure the full project commencement and completion dates are known.

The mobilisation and all associated tasks should be itemised and included in the project schedule/ Gantt Chart. This will allow the client and all stakeholders to understand what is expected and when the critical path works can actually commence. It also allows the stakeholders and client to understand the lead time required from the possession of site to when works will proceed.

The demobilisation must also be itemised and included in the schedule. The demobilisation is important as it will have the actual completion date of the project and when the client/ stakeholder can have the complete handover of the project.

Without the mobilisation and demobilisation tasks in the schedule, any external sources reviewing the works may interpret key dates incorrectly or even be misled.

8. List the three (3) personnel who signed off on the change request.

- a. Susan Wills
- b. Stephen Lyons
- c. Kim Nguyen

9. What is the total increase in cost of the project as a result of this change request?

The total increase in cost due to the change request is \$17,900 (revised cost of \$462,153 from the original \$444,253).

10. List five (5) exclusions under Stage 2 – Building Support of the Scope Management Plan.

- a. Monitoring the building site for erosion, subsidence or other environmental issues.
- b. Excavation for incoming utilities (electric cable, water supply, etc.).
- c. Excavation of sewerage and septic system.
- d. Maintaining the plants removed in stage 1.
- e. Removal of additional plants or weeds from the building sites.

11. Review the Project Plan. Does it follow the change management procedure? Explain your reasoning.

Do not exceed 50 words.

Yes, the change management procedure has been followed with the Change Request Number 1. All the required personnel have been notified of the changes and the changes have been documented with the required highlighting in the Project Plan (i.e. yellow for change request number 1).

12. Access and review the Gantt Chart version 2. It shows double bars for each task.
- a. What do the coloured bars  represent?
 - b. What do the grey bars  represent?
 - c. Why do the grey and coloured bars do not match up in the Gantt chart?

- a. Progress and Manual Progress
- b. Summary
- c. The coloured bars show all the tasks, whereas the grey bar shows the summary and outlines the critical path, they don't line up as not all tasks are on the critical path for the project.

13. Assuming the project runs on schedule, list two (2) tasks that should be in progress if Sam was to visit the site on Monday 22 August.

Do not include the task 'Project Management'.

- a. Move plants to glasshouse and dispose
- b. Delivery of granite boulders

14. If Sam was to visit the site on Thursday, 22 September, he will see that two (2) tasks are in progress, namely:
- Construction of retaining walls.
 - Install and compact soil behind walls.

According to the procedure documents, these two activities cannot happen at the same time. The retaining wall has to be built first. Once construction is completed, the soil needs to be added behind. Why are these two tasks in progress on the same day?

The installation and compaction of soil behind walls had commenced a week and a half before the construction of retaining walls, and hence the first task has gotten in front to allow the construction of the retaining walls to commence. As the walls are being built, the soil behind the walls will continue to be installed in other sections, followed by retaining walls to catch up.

15. According to the Gantt Chart, if there is a delay in the completion of Task 57 'Construct stone paving walkway',
- Which tasks, if any, are immediately delayed?
 - Will this delay push out the completion of the project? Why or why not?
 - Discuss how this could affect the resourcing of the project.
 - List one (1) risk that could arise from this issue.

- Erect signs and soil preparation.
- Yes, soil preparation is part of the critical path.
- There would be a clash in resources and multiple personnel are on both tasks, hence they would be unable to complete both at the same time, more personnel would be required if they were to commence the next task prior to completing the stone paving walkway.
- More personnel required, otherwise, delays in the project completion.

16. What is the total budget for the project expenditure?

The total budget for the project expenditure \$462,153, although Massive Eco-Development Corporation is paying a fixed sum of \$550,000.

17. Sam is very concerned about the cash flow of the project.
- a. What is the problem?
 - b. What would you suggest be done to rectify the cash flow issue?

- a. The cashflow is not very consistent and up and down throughout the life of the project. Additionally, for the first three months, the project is in negatives.
- b. Negotiate payment dates as the first payment is 3 months after project commencement. Additionally, if this is not an option, try to adjust the project schedule to decrease costs in first few months.

18. Discuss whether Awesome Landscapes should seek increased funding from Massive Eco-development Corporation to absorb some or all of these cost increases.

Your discussion must be 200 – 300 words in length.

Guidance:

The change requests have incurred extra expense, yet the funding to be paid by Massive Eco-development Corporation has not changed.

If you believe Awesome Landscapes should seek increase funding from Massive Eco-development Corporation, provide a strong argument for your case. If not, explain your reasoning.

I believe Awesome Landscapes should seek increased funding from Massive Eco-Development Corporation. Although the full amount may not be accepted, I think some funding should be provided. Due to the change request, Awesome Landscapes have increased scope, increased project timeframe and increased budget. Awesome Landscapes is willing to adhere to the project completion originally outlined, only with an increase of a week at the start of the project. The additional scope has also been taken on board whilst many other tasks are proceeding concurrently. The costs have increased in various areas, yet the total funding remains the same.

There have been cost increases in the road gravel, construction of retaining walls (expected with the increase of 3 new retaining walls), installation and compaction of soil behind walls (again, expected with the increase of 3 new retaining walls), and lastly, overhead increases due to the timeframe of the project, including the project management and the project support staff.

From these alterations in the costs to the project, I believe there should be some reimbursement from Massive Eco-Development Corporation. If the additional costs from the increased scope would not be paid, then at a minimum the items which are not in the control of Awesome Landscapes should be funded. That is, the increase in the road gravel.

19. Complete the following Audit Template with the standards determined in the previous question (Case Study Question 18). This will be given to an internal auditor to audit the financial processes at various points along the project.

Guidance: Complete only the fields highlighted in yellow. Do not complete the 'Assessment' and 'Comment' fields under 'Audit of Management of Project'.

See below.

Quality Audit Template		
Project Name: <i>Cascade Peak Chalets Landscaping Project</i>		
Prepared by: Sam Ng		
Date:		
Project Manager: <i>Sam Ng, Awesome Landscapes</i>		
Project Phase:	Overall Project Status:	
Audit Date:	Audit Number:	Audit Leader:
Audit Team:		
Goal(s) of This Specific Audit: To evaluate the financial processes of the project.		
Audit of Management of Project:		
1. Are financial decisions being made as per the project plan?	Assessment:	Comment:
2. Are decisions fair to all parties?	Assessment:	Comment:
3. Have all parties been given the opportunity to plead their case for funding?	Assessment:	Comment:
4. Is the final decision provided within the required timeframes?	Assessment:	Comment:

5. Has the financial processes caused delays to the project?	Assessment:	Comment:
6. Are any delays caused applicable for an Extension of Time for the project?	Assessment:	Comment:
7. Is monitoring required to assess the outcome of the decision?	Assessment:	Comment:
8. Are there changes required to the financial processes in this situation?	Assessment:	Comment:
9. Has feedback been provided from all parties?	Assessment:	Comment:
Overall Assessment of Management of Project:		
Recommended Action(s)/Lessons Learned Regarding Management of the Project: 1. 2. 3.		
Additional Audit Comments: 1. 2. 3.		
Have you attached additional material(s)?		☐ ye ☐ n
Name(s) of attachment(s): 1. 2.		
Audit Report Submitted To:		Date:

20. Sam has provided you with the following audit from a previous project (landscaping the new Cascade Peak Shopping Centre). Evaluate the audit report below and answer the following questions:
- What was the cause of the unsatisfactory results?
 - What action would you recommend to prevent the issue coming up again in this project?

- Tasks were not being provided to the supervisor with enough detail, additionally the supervisor was not providing the tasks to the team within a reasonable timeframe.
- Ensure the project manager has provided sufficient detail in the tasks and to provide a toolbox talk record for the supervisor to ensure all personnel sign and date onto the task details when they provided. Each task should have its own sign on, and works shall not proceed without the sign on happening.

Quality Audit Template		
Project Name: <i>Cascade Peak Chalets Landscaping Project</i>		
Prepared by: <i>Sam Ng</i>		
Date: <i>17 August 2015</i>		
Project Manager: <i>Sam Ng, Awesome Landscapes</i>		
Project Phase: <i>Implementation</i>	Overall Project Status: <i>On schedule</i>	
Audit Date: <i>17 August 2011</i>	Audit Number: <i>26</i>	Audit Leader: <i>Sam Ng</i>
Audit Team: <i>Sam Ng, John Cowley, Ann Deak.</i>		
Goal(s) of This Specific Audit: <i>To evaluate the communication and reporting processes.</i>		
Audit of Management of Project:		

1. Are tasks being communicated to site supervisor in a reasonable amount of time?	Assessment: Satisfactory.	Comment:
2. Are tasks being communicated to site supervisor of sufficient detail?	Assessment: Not satisfactory.	Comment: Tasks only being communicated as per Gantt chart. Site supervisor having to seek clarification regularly on requirements of tasks.
3. Are tasks being communicated by the site supervisor to the team members and contractors done in a reasonable amount of time?	Assessment: Not satisfactory.	Comment: Timing of communication can be improved if there wasn't the need for clarification of the details of the tasks.
4. Are tasks being communicated by the site supervisor to the team members and contractors of sufficient detail?	Assessment: Satisfactory.	Comment:
Overall Assessment of Management of Project: Tasks being communicated to the supervisor do not have the level of detail required by the site supervisor. In particular detailed plans are not provided with the task briefs. Some delays in commencing tasks have been experienced as the site supervisor has awaited clarification from the project manager.		
Recommended Action(s)/Lessons Learned Regarding Management of the Project: 1. Project manager to prepare task briefs in enough time to add the required level of detail. 2. Task briefs are to be supplied with all relevant attachments such as detailed plans.		

Additional Audit Comments:

- 1.
- 2.
- 3.

Have you attached additional material(s)?☐ ye ☒ x ☐ n**Audit Report Submitted To: Kim Nguyen****Date:****24/08/2015**

21. The quality plan is very weak on cost management. Write a Cost Management Plan (of 200 – 300 words) for managing the quality of the financial processes while the project is in progress.

Guidance: Your Cost Management Plan must cover the following quality objectives and criteria.

- a. Meeting with contractual requirements.
- b. Paying invoices on time.
- c. Ensure invoices are sent out in time.
- d. Ensuring financial reporting is done on time.
- e. Include a calendar of when payments are likely to be due.
- f. Comparison of actual cash flow against projected cash flow.

Cost Management Plan – MUST DO'S

The following list of items must be adhered to by all personnel to ensure the project has a high standard on cost management.

1. Contractual Requirements
During the planning phase of the project, once the team has been established, all team members will review and understand the contractual requirements relating to the project cost and budget.
2. Invoice Processing (Receivables)
Invoices will be processed within 3 business days of receiving them. This will ensure invoices are paid on time.
3. Invoice Sending (Payables)
Invoices must be sent to the required company/ personnel within 3 business days of the works being completed. This will ensure invoices are sent out in time.
4. Financial Reporting
All financial reporting shall be completed at the end of the month within 3 business days after the month completion, i.e., the January period reporting must be completed no later than the COB on the 3rd of February.
5. Payments Due
Payments are all due 15 calendar days from the end of the month; hence all invoices must be processed, and invoices sent to ensure these dates are adhered to.
6. Cashflow
The project must ensure a spreadsheet is kept up to date which outlines the cashflow of the project. The spreadsheet must include data for both the actual cash flow vs the projected cash flow by the team. The data must be updated at the same time as financial reporting (3 business days after the month completion).

WORKBOOK CHECKLIST

When you have completed this workbook, please ensure you have completed all parts of it:

- ☒ **Written Questions**
 - ☒ **Part 1 – Project Scope**
 - ☒ **Part 2 – Project Time**
 - ☒ **Part 3 – Project Cost**
 - ☒ **Part 4 – Project Quality**
- ☒ **Case Study**

IMPORTANT REMINDER

Students must achieve a satisfactory result to ALL assessment tasks to be awarded COMPETENT for the unit relevant to this subject.

To award the student competent in the units relevant to this subject, the student must successfully complete all the requirements listed above according to the prescribed benchmarks.

End of Document