

BSB51415 Diploma of Project Management



Constraint Management

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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 :Lauren Symonds

Signature:

Date:

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.

A project has a timeline that is necessary to be completed by a deadline. The cost is the sponsor's budget. The project's outcome is controlled by the scope or requirement.

These constraints affect the project. It can determine the available amount of time to complete, and the available amount of funding is used for the project deliverables.

Outcomes like a shorter (or longer) timeframe to complete the project, can affect the Cost to determine if it needs to be increased for resources required to meet the project scope. Or, perhaps even the scope of the project needs to be reassessed.

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. By focusing and identifying the projects goal deliverables and related work
- b. A work breakdown structure can be produced by breaking down, or decomposition, of the steps required to reach the goal deliverable. This can be done by the phases of the project on the first level of decomposition, with the project deliverables on the second level
- c. Using subprojects which may be developed by organisations outside the project team such as the contracted work. Reference BSB51415 Learner Guide book 2, Page 28.

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 when a project has continuous, uncontrolled changes to the overall project scope. This can result from inaccurate identification of the overall deliverable of the project, and changes need to be applied to meet the required goal. Scope creep can also happen when poor management of the project has taken place, or, communication between the sponsor and or staff, affecting operational processes and tasks. Tasks and changes build up, overall increasing the scope of the project due to poor management.
Sponsor / project owner approval	The sponsor or owner of the project needs to have their goal of the project thoroughly understood to achieve the deliverable. To achieve this, a clearly defined scope and statement of the project deliverable needs to be approved by the sponsor, to avoid any items or tasks forgotten. The sponsor can then review the scope so that they can determine if the scope meets their needs and goals, how much it will cost and if they approve of the project.
Project team accountability	Project team accountability can become a problem when a project has been made unclear to the team. The tasks and milestones that need to be tracked throughout the project lifecycle can be lost track of when a team is unsure about the direction and expectations they need to meet. A team, including the project manager, hold themselves accountable for measurable improvements and reaching milestones when they have a clearly defined scope and specific expectations that they need to achieve. Miscommunication, frustration and rework decrease when the project specificity increases.

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

Do not exceed 150 words.

Scope Management is the management of the projects scope of deliverables. It is important that the project manager closely monitors this as it defines what is required within the project and can determine the overall cost, time and the deliverable outcome the sponsor or owner has requested. It also allows project managers to engage techniques to allocate the right amount of resources or labour to tasks and to monitor their progress as some tasks cannot begin until others are completed.

The scope of the work needs to be defined and mapped out for the project to reach each milestone stage. These milestones make it easier for the project sponsor and the project manager to identify that the project is headed in the right overall direction for its deliverable outcome.

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	A thorough understanding of the project and why it is required to achieve the end goal and deliverables of the project.
Scope Management	To convert all the project deliverables into work tasks
Time Management	To develop and coordinate a project base timeline of all tasks within the required timeframe of the project.
Cost Management	To develop the baseline costs of the project, maintain and monitor the budget of the project
Quality Management	To understand and achieve the stakeholder's expectations of good quality for the project, and plan out the Quality assurance and Quality Control processes to meet that expectation.

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	The Earliest start time provides the project manager with a date the work for the project, or task, can begin. Any tasks leading up to this date for the project must be completed before this date.
EF	The Earliest Finish Time is the date or time calculated by combining the Earliest start time of the task or project with the amount of time required to complete the task.
LF	The Latest Finish Time is the very last date or time the task must be finished by without delaying the project. Reference BSB51415 Subject 2 Learner Guide Book, Pg 71
LS	The Latest Start Time is determined by calculating the Latest Finish Time of the task, 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 to plan project stages or tasks. It is a visual of how a project flows over time and can show milestones, duration of tasks and how tasks group together or interlink for each stage of a project.
 - b.
 1. Calculated costs.
 2. Real time tracking of project tasks.
 3. Key Milestones of a project.
 - c.
 1. Gantt Charts are used usually with specialised programs, so the charts distributed to stakeholders will need to be sent as a pdf version, and depending on the size of the chart, can be very large.
 2. A Gantt Chart is only as good as the accurate information the Project Manager uses to produce overall project outline.
 3. Each task is subjective, and a Project Manager can be tempted to exaggerate correlating tasks to make the chart look better by altering it.
- Reference BSB51415 Subject 2 Learner Guide Book page 136.

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 is used to identify tasks in a project that have a limited timeframe within a stage of a project. Critical tasks don't have 'slack' time where the task cannot extend over the allocated amount of time without delaying the project.
- b.
 - 1.The latest start time for projects
 - 2.The duration of a project
 - 3.The critical tasks that don't have any leeway
- c. The limitations of the Critical Path Method are that it doesn't adapt well if timeframes are extended during a project. Especially if the duration of a task/s are guesstimates of time required. This can make it unreliable and requires constant upkeep to fit the actual progress of the project.

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	Is the approximate monetary cost determined by resources known at the time for the proposed project and its tasks. This can include the value of other possible solutions to achieve the project's deliverables, or identify other requirements for the project that may need to be included.
Determine budget	Determine budget is the combined estimated costs of the project which forms the authorized cost baseline. This doesn't include the management reserves of the project, just the required amount for the project.
Control cost	Control cost is the management of costs throughout the project's lifecycle, to keep the baseline budget up to date with actual money spent and to alter the baseline should it require it.

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, such as a financial management software. b. Regularly sending invoices c. Paying invoices promptly d. Checking invoices against contracts, purchase orders, quotes and agreements <p>Reference: BSB51415 Subject 2 Learner Guide Book Page 81.</p> |
|---|

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 Corporations Project Management Policy involves taking a standardized approach to managing projects within their company. The policy has been designed to improve the way company projects are managed and increase visibility of processes and projects of Bigger than Big. The outlined company model has also been simplified for projects that can be adapted to the requirements of large and complex projects requiring detailed governance, to smaller projects. Projects are usually placed in a program of work with shared organizational objectives and must follow operative policies and procedures of the company.
- b. The purpose of Bigger than Big Corporations Project Management Procedures is to define the processes for efficient and effective management of the project throughout its lifecycle. A project will adhere to the formal project methodology used with 5 project phases designed to address each stage of the project to deliver a business function or outcome.
- c. Pre-Initiation Phase is the process of building the baseline foundation of the project often where a problem needs to be solved. – Initiation Phase, which determines how the project will be governed. Plan phase, where detailed schedule and budget is determined. Implement Phase, determining how the output of the project is achieved and a plan for this process is completed. And lastly, the Close Phase, where the handover of the project happens and a formal closure of the project.

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 can be measured by meeting the customers' expectations, or even by surpassing them. This then overall determines the quality of the product or service that a company is providing. If a company meets or exceeds the customers expectations, then that has a positive measurement of the quality of product supplied to the customer. However not meeting or understanding the needs and expectations of the customer can be detrimental to a business. If customer satisfaction is not met, this indicates that one or several factors of the product, price or service provided it not reaching expectations.
Prevention over inspection	Prevention over inspection is the concept of the cost of preventing failures during the project is preferable, over the spending of money after the project due to failures. The cost of fixing a failure after a project can be much more costly than during. This could be because the quality of product is poor, the cost becomes greater by having to replace products that were of quality ie. Pulling down a drywall to replace internal framing measured wrong. This can affect the customers satisfaction as well.
Continuous improvement	The goal of Continuous improvement is to identify issues in current and past projects, processes or products and to improve and avoid repeating these mistakes. It is a key aspect in quality management as it identifies where improvement is needed, what improvement is required and then effectively applied where it is needed, whether it be small, incremental or big changes. Reference BSB51415 Subject 2 Learner guide book, page 114.

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

Do not exceed 100 words.

Quality Assurance (QA) and Quality Control (QC) are two different types of Quality Management. Quality Assurance is based on providing confidence to a consumer that a product meets the standards set for it.

Whereas Quality Control is an inspection process, constantly assessing to detect defects to ensure the final output of the product meets the quality standards first set by the quality assurance.

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 is the requirement that people need to meet in order to be suitable for the project's tasks. This can include experience in niche fields, or having the skills achieved through study and learning, to complete tasks or be suitable for the work.
Process standards	The standard procedure to follow in delivering a project, to implement tasks outlined in a project scope or the process of completing a task, including quality auditing to measure the progressive outcome.
Product / service standards	The standard expected by businesses and or clients required to meet either legislation or quality purposes for the product or service. E.g. Engineering requirements for structural purposes.

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. Ensuring all organizational quality requirements are met for the delivery of the project.
- b. Determining the quality standards for the project processes
- c. Conducting, or coordinating project audits
- d. Reporting of quality outcomes to the projects sponsor and any other relevant stakeholders.
- e. Coaching and mentoring project team members as needed to assist in achieving the project quality objectives.

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 tools and techniques to improve the quality of output from a process. It is a process of identifying and removing defects while minimizing variability. Six Sigma focuses on reducing defects and variability. Reference https://en.wikipedia.org/wiki/Six_Sigma
Lean Six Sigma	A methodology that works on improving a company or organisations process operations and improve working conditions. It combines Lean and six sigma tools and techniques to eliminate problems and inefficiency.
Total Quality Management	The process of continuously making improvements to products and services from ongoing feedback. It is used in project management to identify what needs to be improved on so that a high standard of work is met by all employees and products.

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 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 project needs to be worked around the construction of the chalets. The Scope clearly defines what is required of Awesome Landscapes by listing the inclusions and exclusions of the goals in each phase. This can be found in the Project Plan, Cascade Peaks Chalets Version 2, Pages 15 to 19, Items 2.2 Inclusions and 2.3 Exclusions. The scope constraints have also been briefly summarized in the Project Charter Version 2, Page 3 in Assumptions, Constraints, Risks. The natural environment must be carefully preserved as per the strict council requirements for environmentally sensitive areas.
Time	The Projects time constraints have been briefly summarized in the Project Charter Version 2, Page 3 in Assumptions, Constrains, Risks. Nine months overall have been allowed for all works to be completed. A Time Management Plan indicates the scheduled time for completion of each the three Phases. Refer to Project Plan Cascade Peak Chalet Version 2, Page 20, item 3. Further details of the allowable time have been listed in the Work Breakdown Structure, Gantt Chart, Network Diagram, Effort and Duration of Tasks and the Task Dependency Worksheet.

Cost	The Project is to be completed at a fixed cost of \$550,000 + GST, as indicated in the Project Charter Version 2. The Cost Management Plan has been detailed for the breakdown of this amount for each phase, indicating how much is allowed for Labour, Procurement and Purchase. Further details of the project budget calculations are provided in appendices 6 and 7. The total budget was calculated using an estimating methodology by Awesome Landscapes Staff salary or hourly wage and multiplying it by 1.3 to cover leave entitlements and administration costs. The procurement and expenditure costs were calculated by quotations from suppliers.
Quality	The Quality constraints are listed in the Project Plan, Cascade Peak Chalets Version 2, page 25 to page 28. The project will need to adhere to the Cascade Peak Shire Council Regulations which includes a far stricter standard of building due to the project being within an environmentally sensitive area. They are outlined in the Project Plan Version 2 under 5.2 Cascade Peak Shire Council Regulations. These standards and tasks are further detailed in Appendices 9 and 10. Building Regulations, refer item 5.3 in the Project Plan page 25, where Awesome Landscaping need to adhere to standard building regulations for the construction of retaining walls, and standards for underground services and utilities. Operation of Equipment, all staff/contractors are to be suitably qualified and or certified to operate equipment. Quality Assurance of the project will be integrated into the project processes on a monthly basis, and mostly conducted by the site supervisor as the work progresses. Council will arrange for an auditor to conduct monthly inspections for Quality control. Prior to this, an internal audit will be conducted by the project manager on the completed landscaping work of each stage.

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.
- What is the change in scope?
 - How does this change in scope impact the overall duration of the project?
 - How does this change in scope impact the quality aspect of the project?

- Change Request 1: Addition of three new retaining walls and services to additional units as per updated site plan. Increase in cost of road gravel by \$6,500.00
- Phase One of the Project is to start 7 days earlier, on the 27th of July to allow extra time to complete the additional work and procurement of supplies for the retaining walls. The amount of task effort hours have increased, the hours for the Project Management and project support staff has increased as a result to monitor and adhere to the changes. During Stage two, the excavation work has significantly increased, which has decreased lag time to keep the project on schedule. This change must also be approved by Council, which generally takes 4 weeks.
- Both the project manager and the council auditor need to inspect the additional retaining walls to ensure they are up to regulation standards. The construction supervisor is also to ensure building plan is followed.

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 of three additional retaining walls and excavation for incoming utilities and septic for the extra chalets to be built may be one price, but it has an ongoing effect on procurement and hours required to complete this change.

Additional road gravel, boulders, the construction of the retaining walls, and the fill behind the retaining walls are a part of preparing and building to standard construction regulations for the change request.

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?

Sam Ng the Project Manager

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

- Site Quality Audits have not been included in the project Gantt Chart.
- Quality Audits must be conducted regularly and at proper intervals during each stage of the project to ensure that the quality is meeting standards. This includes audits to assess if materials, structural design, installations or processes, compared to the standards they are expected to meet, are being complied with. Quality audits will help to identify, rectify and prevent any unwanted delays or problems from happening by ensuring that products produced are adhered to the quality standards. Quality audits are a good way to track and predict quality performance, to see if the project is performing to the project goals and can provide solutions or recommendations to get results or answers on problems.

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

- Susan Wills – Program Manager from Massive Eco Development Corp.
- Stephen Lyons – Planning Manager from Cascade Peaks Shire Council
- Kim Nguyen – Director from Awesome Landscapes Pty Ltd

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

The total increase in cost is \$17,900.00 excluding GST for the changes made. The total including GST is \$19,690.00

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.

No, the change management procedure is not being followed. There are no signatures on the change request form 1. For the changes to become in effect, the change request must be signed. The Change Register is blank and thus has not recorded any changes.

Reference: Project Plan Cascade Peak Chalets Version 2, page 125 and 126.

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

- The coloured bars represent the current project schedule, including the change request
- The grey bars represent the original schedule baseline of the project schedule.
- The coloured bars and grey bars do not match up in the Gantt chart because the schedule has changed from the change request.

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'.

- Move plants to glasshouse and dispose
- Install road gravel

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 additional three walls in the change request has extended the time to construct. The retaining walls that have already been completed can have the fill placed behind those walls while the three additional walls are being built.

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.

- Task 59 to Erect signs on the 6/02/17, Stage 3.4 Detailed Landscaping which starts on the 06/02/17 and Task 62 Soil Preparation.
- Yes, this delay will push out the completion date. As many tasks are dependent on task 57 to be completed on time before the detailed landscaping can begin. Any delay in the completion of a task, be it a day or more can delay other tasks.
- The delay could affect resourcing by suppliers not having the required amount of stock due to the delay in the project extending out. I.e. Plants may have died, or boulders become unavailable that are required to complete landscaping.
- Landscaping / gardens does not get completed is a risk that could arise from this issue.

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

\$462,153.00 after the change request. Prior to this the original budget for expenditure is \$444,253.00 These prices exclude GST.

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

- The issue is from the initial estimating costs of the project. Not enough money has been estimated to cover costs for changes or problems that may arise on site. \$247,768.00 is expected to be spent in phase 1 of the project.
- Awesome Landscapes should use their reserve cash of \$224,724.00 to help with the cash flow of the project to cover the cost throughout phase 1.

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.

Awesome Landscapes should seek increased funding from Massive Eco-Development to absorb the cost of the additional work.

A fixed price contract has an included finalized scope of works required to complete a project. The sponsor, Massive Eco, would have reviewed the information provided to them with the quotation provided from Awesome Landscaping. The fixed price is determined by the quotation from Awesome Landscaping, detailing the scope requirements of the project. If Awesome Landscaping were to underestimate the cost for the work all parties have agreed to, then they would not be able to seek increased funding.

However, as the work agreed on to complete an ecologically friendly resort would have detailed the number of chalets and landscaping requirements for the project, the addition of the retaining walls and services is outside of the initial scope.

The change for the additional retaining walls, road gravel and services, though necessary to achieve the required goal of the eco-friendly resort, was not planned for in the works required to be performed by Awesome Landscapes. The added cost of materials and hours required to complete the additional work to fit inside of a timeframe for the resort, needs to be considered by the sponsor as these were unplanned costs outside of the agreed works.

Awesome Landscapes is meeting the requirements to finish the landscaping within the constraints of the project timeframe, with the added pressure of completing additional retaining walls. The added cost from the change request will likely be covered in any profit Massive Eco will make as a result of the additional chalets. However, without funding, Awesome Landscapes could easily fall out of the allowed time period due to the cost of materials or available laborer's being unavailable within the budget.

The cost for the additional materials should be covered by the sponsor as it was the request for more chalets to be built.

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'.

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Quality Audit Template		
Project Name: <i>Cascade Peak Chalets Landscaping Project</i>		
Prepared by: Lauren Symonds		
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 assess if additional funding is required on Phase 1 for additional work requested (refer change request 1)		
Audit of Management of Project:		
1. Was the raw cost of the initial quoting stage inclusive of any additional work outside of the agreed Scope of Works?	Assessment:	Comment:
2. Will the budget for phase 1 cover the cost of labour required to complete the additional work?	Assessment:	Comment:
3. Will the raw cost of materials for the additional work be covered in the project cashflow for Phase 1?	Assessment:	Comment:
4. Does the project budget have a scope for bearing contingency?	Assessment:	Comment:

5. Are funding resource estimates sufficiently detailed and documented for use in planning and tracking the project?	Assessment:	Comment:
6. Are project costs monitored and recorded consistently?	Assessment:	Comment:
7. Do payment terms cover project costs efficiently?	Assessment:	Comment:
8. Are the raw materials available for purchase when the additional work is required?	Assessment:	Comment:
9. Will labourers be available to complete the additional works.	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 being communicated to the Supervisor do not have enough sufficient detail for the site supervisor. The site supervisor then needed to wait for clarification on tasks, which resulted in delayed information being provided to team members and contractors. - Tasks need to have clear and defined documentation of what is required, along with detailed plans, aside from the Gantt Chart. A task dependency worksheet, Effort and duration of task, a network diagram should be provided along with a Gantt Chart, documenting what is involved in each task during a phase.

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
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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.
-

The Project Coast Management Plan for Cascade Peaks.

The project manager will document weekly on the performance of the cost management throughout the project lifecycle. The project will use the projects milestones to measure and compare the progress of the budget with the project objectives. This is to ensure Awesome Landscapes meet with contractual requirements.

Supplier invoices are to be paid at the end of each month. This will be monitored by the weekly performance of the cashflow.

Invoices to contractors or the sponsor is to be sent out on the completion of the projects' milestone with terms of COD. As the project manager is overseeing the cash flow performance, and the overall milestones of the project, invoices will be sent on time and will help to ensure sufficient flow of income.

Financial reporting will be conclusive of the weekly documentation of the projects budget and will be submitted at the end of each month.

Using the milestones in the project and weekly documentation will allow the project manager to compare the actual cash flow against project cash flow by using estimated and actual costs.

Schedule of when payments are due:

Payment 1: Expected Payment Date 23rd September 2016, 50% proportion of \$302,500.00, Project milestone completion Phase 1

Payment 2: Expected Payment Date 12th November 2016, 20% proportion of \$121,000.00, Project milestone completion of Stage 2.2 – Excavate incoming utilities.

Payment 3: Expected Payment Date 6th January 2017, 20% proportion of \$121,000.00, Project milestone completion of phase 2.

Payment 4: Expected Payment Date 11th March 2017, 10% proportion of \$55,000.00, Project milestone completion of phase 3.

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