

6

Project Scope Management

Reza Mohammadi and Amos Haniff

Learning objectives

By the time you have completed this chapter you should be able to:

- ☐ Define the project scope
- ☐ Understand the importance of defining the project scope
- ☐ Prepare a detailed scope statement
- ☐ Outline the contents of a project charter
- ☐ Break down a project into deliverable, sub deliverables and work packages
- ☐ Create a product break down structure
- ☐ Create a responsibility assignment matrix
- ☐ Develop a project communication plan

6.1 Introduction

Project scope management involves describing the product, service or result of the project, and identifying the activities that need to be achieved in order to deliver the expected final outcome. Far too often an initial project brief is given to a project manager with little guidance as to what the project includes or the extent of the work required to deliver the business objectives. This should be of little surprise. After all, the primary concern of the client is to recoup the benefits from commissioning a project or exploiting an opportunity through a project.

The process of defining the project, in terms of deliverables, objectives, requirements and detail, becomes the responsibility of the project manager.

This chapter guides the processes of developing and defining the project scope. This involves assessing the project objectives, identifying main deliverables and subdividing these into structures that enable the project manager to generate responsibilities, cost estimates, control points, work packages and a basis for detail planning.

6.2 Defining the project scope

The project scope is everything about the project. This includes the final deliverable of the project and all the work that must be done in order to achieve the deliverable. Defining the project scope involves identifying *what is* and *what is not* included in the project. This provides the point of reference against which the project is authorised, measured and controlled.

Project scope is defined to be “the sum of products and services to be provided as a project” (PMI, 2013). The scope of project must be written down in the Scope Document. The level of details should be sufficient to define to all stakeholders just exactly what the project is about. The scope is different from the objectives. Objectives set out the actual deliverables of the project in some details. The scope, on the other hand, defines just what aspects of the project are the responsibility of the project team and are covered by the budget and the timescale.

A very common example of poor scope is maintenance. Often a project ends with successful delivery of the stated objectives but no-one has thought about maintenance. There is no budget or resources to cover maintenance because they were all used up in delivering the objectives. Consequently, it is vital before the project starts to specify the scope exactly, to eradicate or resolve any unreasonable expectation as to what aspects of the project the team are expected to deliver.

The best way to specify the scope is to specify: What **IS** included in the scope, followed by what is **NOT** included in the scope. This would eliminate a possible scope issue arising from unreasonable expectations in discussion with stakeholders.

It is the project manager’s responsibility to define the project scope, normally conducted under the guidance of the project sponsor and following consultation with the key stakeholders as described in Chapter 2. It is accepted that all stakeholders may not be in full agreement of the project objectives, but a clear definition of the scope will establish a common understanding of the agreed

project outcome. It is critical that the boundaries of the project are defined at the early stages of the project, as there is a tendency to add deliverables to the project during the planning and execution stage. The project scope therefore becomes the baseline against which the work content required to create the project deliverables are planned and measured. Without a clear definition of the project scope, it would be impossible to estimate durations, calculate costs, and determine resources and establish when the project is officially complete. Finally, the scope document should be written in such a way as to best communicate the intension of the project to all of the stakeholders.

■ The project charter

Sometimes referred to as a *project initiation document* (PID) (OGC, 2005), the project charter is the document that formally authorises the project. Drawing on the defined project scope, the project charter is created, issued and sanctioned by senior management.

As the main purpose of the charter is to formally recognise the existence of a new project within the organisation, it is normally a short document that only outlines the broad objectives of the project. It also identifies the main stakeholders and authorises the project manager to officially acquire the resources required to achieve the project objectives. Once authorised the project becomes part of the ongoing work within the organisation. Identity codes are created, budgets are allocated, resources are assigned and performance measures are established.

As the project charter is a high level document, its primary concern is to document the business needs and justify the investment for the project. It should demonstrate an understanding of the customer requirements and show how the end deliverable of the project intends to satisfy those requirements. Typical contents of the project charter would therefore include:

- The project title
- The project's mission and brief
- The project focus
- The critical success factors (CFSs)
- The project risks
- Project authorisation
- The assigned project manager
- The project team management structure
- The project approach
- The project quality plan

- A communication plan
- Customer needs and expectations
- Identification of stakeholder needs and expectations
- A summary of the business case
- Justification for commitment to the project
- Financial information, including return on investment and a summary of the budget
- Identification of the key milestones
- Project constraints

In some organisations a project is not formally initiated until after the completion of a formal feasibility study. The feasibility study is the initial justification needed to determine if a project is 'do-able'. Feasibility studies are normally carried out for larger or riskier projects, or projects that are ill-defined. The feasibility of a project is measured against a detailed statement of the project scope. It is useful to add a key statement from the stakeholder analysis and key performance objectives.

■ The scope statement

The scope statement is the **detailed** description of the project deliverables and the work required to accomplish those deliverables. It reflects the project team's efforts at documenting and seeking approval of all important project parameters prior to proceeding to the planning phase (Pinto, 2013). Significantly, it determines the baseline on which the project team will plan the project and on which the project manager will make project related decisions, and defines the criteria on which completed projects are accepted. In some organisations the scope statement also becomes a contractual document used to specify the work content to be delivered by an external organisation. For example, if the project involves a market research survey, the major deliverables could be design, data collection, data analysis and providing recommendations by 21 March 2017, for a cost not to exceed £ 200,000.

One of the responsibilities of the Project Management Office (PMO) is to produce a scope statement template as shown in Figure 6.1. This ensures that all projects commissioned by the organisation provide the relevant information in sufficient detail, and ensures standardisation across all documentation.

Project Scope Statement				
1. Business Objectives				
Project name:				
Prepared by		Date		Revision
Project Manager		Project sponsor		
2. Business Objectives				
Business Objectives	Describe the business need/opportunity/objectives			
Product Description	Describe how the project satisfies the business need/opportunity/objectives			
3. Project Description				
3.1 Project Objectives				
3.2 Project Scope				
Includes				
Does not include				
3.3 Project Requirements				
3.4 Project Constraints				
3.5 Project Milestones				Target date
Project start				
Project Completion				
3.6 Project Assumptions				
3.7 Critical Success factors				
3.8 Schedule of supporting documentation				
4. Scope Statement Approval				
Signed	Date	Approved	Date	

Figure 6.1: Sample template of a scope statement

Although the level of detailed required will vary according to each project, typical elements of the scope statement include following:

- **Project objectives:** These are what the project aims to achieve. They consist of the benefits the organisation expects as a result of investing in the project and any particular targets the project means to accomplish. Therefore, a project may have varied objectives that need be realised, and these include business, technical, cost, schedule and quality.

Objectives must be described in measurable terms. To be measurable each objective will have an attribute attached it, that success can evaluated against. For example, a project to implement a new computerised library management system could have as its objectives that it will provide higher levels of service to patrons; recoup printing and copying costs within six months; reduce waste by 60%; be implemented within 12 months at a cost not exceeding £250000.

- **Project scope description:** This is the section that fully describes the product, service or result the project is expected to accomplish by the project. This includes the use of the outcome, the end user, colours, size or any other relevant characteristics.
- **Project requirements:** This section describes the requirements of the project deliverables in terms of standards they are expected to achieve. These could be specified quality standards, technical standards or minimum performance requirements, e.g. the required output of particular piece of machinery, delivered by a project, could have a minimum capacity of 200 units per hour.
- **Project deliverables:** These are the expected outputs throughout the project lifecycle. This comprises of the final project outcome, any part outcomes delivered as phases and any supporting deliverables. This may include a list of specifications, technical manuals, prototypes or sections of the project.
- **Project boundary:** Any deliverable not explicitly included within the scope statement is implicitly excluded from the project. However, when the project forms part of a larger programme it may be necessary to document the items not included in the scope.
- **Project constraints:** As discussed in Chapter 1, all projects have constraints that should be defined from the outset. These include the limits in terms of time, cost, resources or equipment.
- **Project milestones:** These are the specific dates imposed on the project for meeting certain stages in the project. More often milestones can be addressed as a project constraint.
- **Project assumptions:** As the scope statement is produced at the early stages of the project, a number of decisions may not yet have been made. The project

team therefore needs to make assumptions of any uncertainties and document them accordingly.

- **Critical success factors:** These are those essential elements of the project that must be achieved for the project to be considered successful. This could be measured in terms of deliverables, levels of quality or objectives. The CSFs define the acceptance criteria for the project.

■ Scope creep

Many projects suffer from **scope creep**, which is a tendency for the project scope to expand over time – usually by changing requirements, specifications, and priorities. This can be reduced by carefully writing your scope statement. Scope creep can have a positive or negative effect on the project, but in most cases scope creep means added cost and possible project delays. Changes in requirements, specifications, and priorities frequently result in cost overruns and delays. For example, on software development projects, scope creep is manifested in bloated products in which added functionality undermines ease of use. If the project scope needs to change, it is critical to have a sound change control process in place that records the change and keeps a log of all product changes. The log identifies the change, impact and those responsible for accepting or discarding a proposed change. All the project management institutes recommend the dedication of significant quantities of effort to scope management at the outset and throughout the project. One of the reasons may be seen in this real world example.

Example: The Sinclair C5

Initially conceived in the mid-1970 as a four-seater electrically powered vehicle for under £1000, the concept of the Sinclair C5 grabbed a lot of attention because it came from such a renowned inventor – Sir Clive Sinclair, famous for one of the first calculators and personal computers. It was highly popular idea and had no shortage of backers, including Hoover, which kitted out part of its factory for its manufacture. The result at the end of the process was rather different as shown

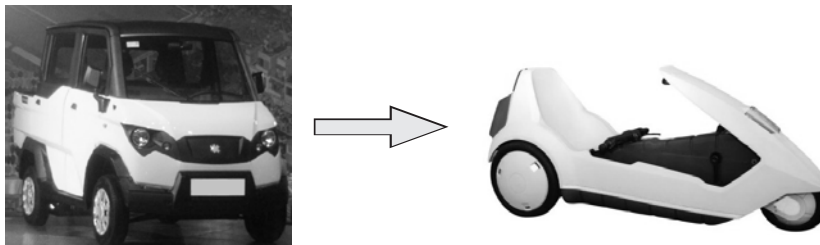


Figure 6.2: Scope creep of Sinclair C5. Source: (Cited by Harvey, M 2010). Reproduced courtesy of Austin Area Electric Automobile Association and Mark Polglaze, with permission from Mike Chancey.

Exercise 1

You are in charge of organizing a dinner-dance concert for a local charity. You have reserved a hall that will seat 30 couples and have hired a jazz combo.

Develop a scope statement for this project that contains examples of all the elements. Assume that the event will occur in 4 weeks and provide your best guess estimate of the dates for objectives.

6.3 The work breakdown structure (WBS)

Once the scope and deliverables have been established, the project manager will need to define all the major deliverables and sub deliverables of the scope. The responsibility for accomplishing each deliverable also needs to be allocated to the relevant team member. The project management tool used to identify the project deliverables is a hierarchical process called the work breakdown structure (WBS).

The WBS helps the project manager to:

- Facilitates evaluation of cost, time, and technical performance of the organization on a project.
- Provides management with information appropriate to each organizational level.
- Develop of the organization breakdown structure (OBS). which assigns project responsibilities to organizational units and individuals
- Manage, plan, schedule and budget.
- Define communication channels, and
- Coordinate the various project elements

Developed by the US Department of Defence (DOD/NASA, 1962), the WBS has become the critical pre-planning process used to identify all the activities and work elements incorporated within the project scope. Using a hierarchical structure, the WBS presents a framework showing how the total project scope is grouped into the project deliverables and manageable work packages. Breaking down the project in this manner provides the project manager with an invaluable structure of what will be required to deliver the final project outcome. According to Obradovitch & Stephanou (1990) use of the WBS serves six main purposes:

- 1 **Reiterates the project objectives:** Drawing on the scope of the project, a WBS identifies the main deliverables and activities required to accomplish the

project objectives. All the work elements identified within the WBS must be completed as part of the project.

- 2 **Offers a logical structure:** As we learnt in Chapter 2, the OBS provides a logical hierarchy for the organisation. Similarly, the WBS provides a logical structure for the project by identifying the main project deliverables, the various sub-deliverables and the logical flow between activities.
- 3 **Establishes a method of control:** The WBS is the first stage in establishing a comprehensive method of control; this is done by assigning the lowest level work elements identified within the WBS a control account and individual performance expectations.
- 4 **Monitor project status:** Each element identified within the WBS can be assigned to a responsible team member and monitored in terms of achieving the project objectives. The WBS can also be used to determine the stage of each activity and the dependency on other activities.
- 5 **Improve communication:** The WBS provides a picture of how each element of the work fits together to form the project. As a result team members are aware of how their component contributes to the project, who is responsible for dependant activities and how their element affects the project downstream. This increases communication within the project and enhances motivation among team members.
- 6 **Demonstrates a control structure:** Identified work elements and the general structure of the WBS provide logic on how the project will be controlled and the most appropriate control methods to use during the project life-cycle.

■ Developing the WBS

Figure 6.3 defines the various levels of the WBS hierarchy. At the highest level will be the final project outcome – this is the starting point for developing the WBS. The next level below will be the all the major project deliverables. This will be followed by the sub deliverables required to accomplish the major deliverables. These are further subdivided into smaller elements, which are divided even further until a level is reached where a detailed set of activities that can be managed and controlled.

This breakdown groups work packages by type of work within a deliverable and allows assignment of responsibility to an organizational unit. This extra step facilitates a system for monitoring project progress. The WBS in Figure 6.4 has been broken down to four levels of a hierarchy using appropriate WBS coding. These could be broken down further, but as a rule six levels is the maximum.

Within the **Virtual Learning Environment (VLE)** project, Level 1 represents the final project deliverable, which is a completed VLE system. This level could be defined by the project title. The next stage is defining the main requirements for the VLE. These are the main deliverables, which could be defined in phases, sections or major parts of the project. Within this example, the main deliverables of Level 2 are represented by main tasks to be completed as part of the VLE. Level 3 are the sub-deliverables identifying what needs to complete each main deliverable. This could involve breaking down each deliverable into its component parts. The final level of each major deliverable is the detail work packages. This is the point at which the control measures are made. Once you have generated your WBS, you will begin to see the way that the three project dimensions – Time, Cost and Quality interact with and influence each other.

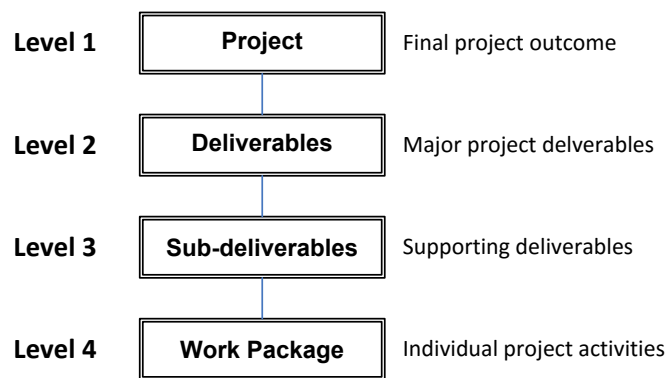


Figure 6.3: Hierarchical structure of the WBS

■ Work packages

Focusing on the micro deliverables of the WBS, ensures that the deliverables at the upper levels are realized. The lowest level of the WBS is the work package. This is the point from which:

- The activities are defined
- The schedule is formed
- Cost estimates are made
- Resources are assigned.

Work packages are parcels of work that are individually planned, resourced and have a cost associated to them. Normally work packages are short-duration tasks, lasting around 2-3 weeks, but on major projects this could be longer. The salient criterion of a work package is that it represents a control point within the project.

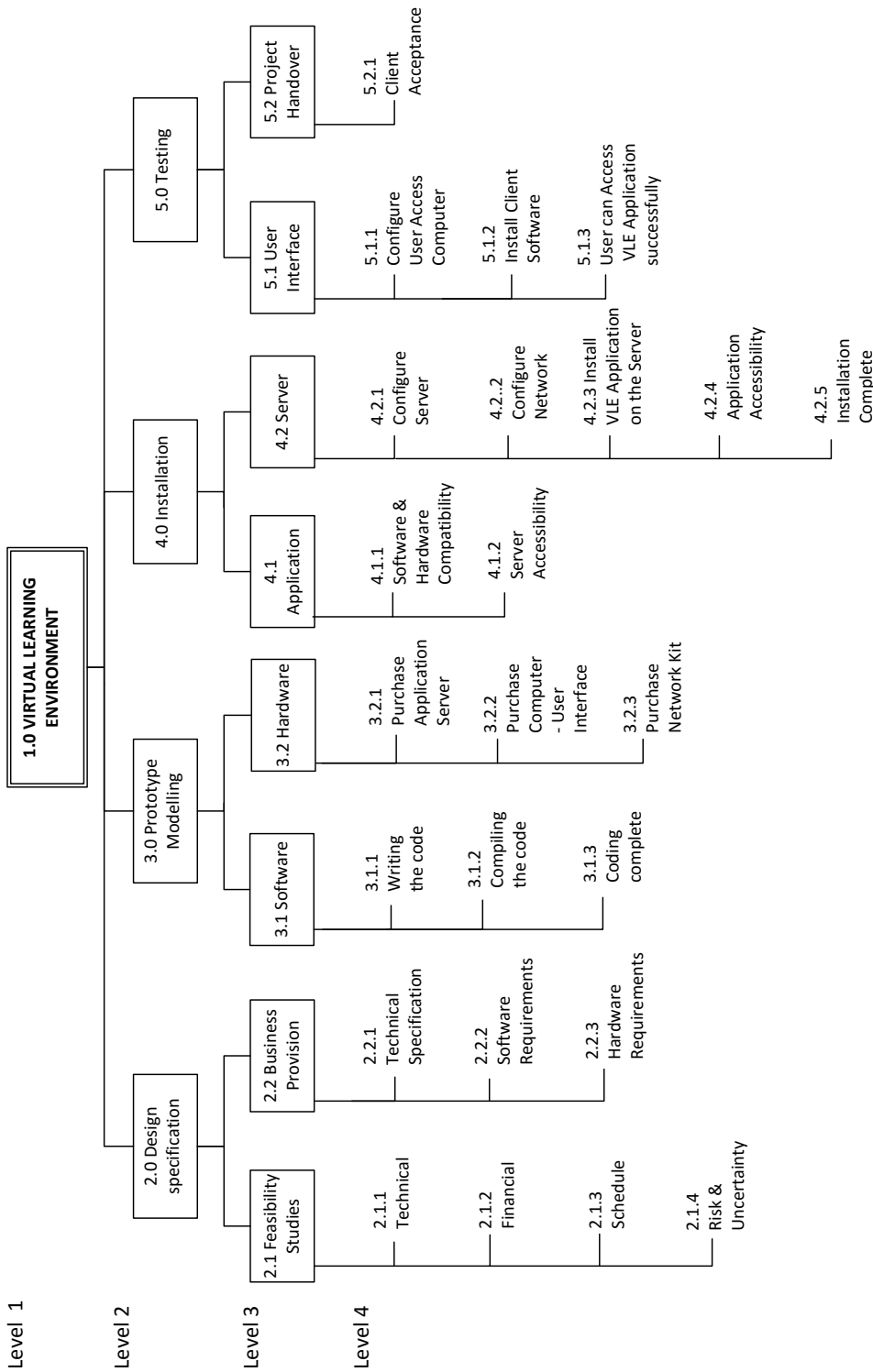


Figure 6.4: Work breakdown structure for Virtual Learning Environment (VLE)

Responsibly for ensuring that the work package is delivered on time, to budget and to the technical specification is allocated to a dedicated **work package manager** (WPM). Typically, a WPM would have responsibility for a number of work packages throughout the project life cycle. However, each work package should be as independent as possible from others within the project. Furthermore, no work package is included in more than one sub-deliverable of the WBS. A work package is the lowest level of the WBS. It is output-oriented in that it:

- Defines work (what).
- Identifies time to complete a work package (how long).
- Identifies a time-phased budget to complete a work package (cost).
- Identifies resources needed to complete a work package (how much).
- Identifies a person responsible for units of work (who).
- Identifies monitoring points (milestones) for measuring progress and success (how well).

As a rule of thumb, a task should not be shown as a separate activity if its duration is less than 5 percent of the total project duration, but remember that, irrespective of project total duration, there will always be short duration activities that are so important that they must be included in your WBS and project plan – such as getting planning permission or authorisation to proceed.

Let us consider the work-package '2.2.2 Software Requirements' in Figure 6.5. This will include all the Software programming language/Coding and application required to ensure the compatibility between software and hardware are planned as part of VLE project design specification. Work packages have their own scope, objectives and deliverables, which will be documented in a **work package statement**, by the responsible WPM. For 'WP 2.2.2' the scope could include the exact programming language to be chosen for coding etc. Finally there must be a cost and a schedule associated to the work package.

It is the responsibility of the WPM to ensure that work package starts on time and is monitored to ensure that completion of the works is according to the project schedule. It is most likely that other work packages would be dependent on its timely completion. However, once all the work packages within sub-deliverables 2.2.1, 2.2.2 and 2.2.3 are complete, the Business Provision (2.2) will be complete. In fact when all the work packages are complete, the project is complete. It would therefore appear that a project is basically a series of work packages that are grouped together to form sub-deliverables, deliverables and objectives. For this reason, the work package becomes the basic unit for planning, scheduling, costing and controlling the project. Consequently, the Project Manager must ensure that mechanisms are in place to review progress on packages at regular intervals.

1.0	Virtual Learning Environment Project	Resources
2.0	Design Specification	
2.1	Feasibility Studies	
2.1.1	Technical	AGM
2.1.2	Financial	AGM
2.1.3	Schedule	AGM
2.1.4	Risk and Uncertainties	AGM
2.2	Business Provision	
2.2.1	Technical Specification	WPM
2.2.2	Software Requirements	WPM
2.2.3	Hardware Requirements	WPM
3.0	Prototype Modelling	
3.1	Software	
3.1.1	Writing The code	COL
3.1.2	Compiling The Code	COL
3.1.3	Coding Complete	COL
3.2	Hardware	
3.2.1	Purchase Application Server	REM
3.2.2	Purchase Computer - User Interface	REM
3.3.3	Purchase Network Kit	REM
4.0	Installation	
4.1	Application	
4.1.1	Software and Hardware Compatibility	AHR
4.1.2	Server Accessibility	AHR
4.2	Server	
4.2.1	Configure Server	AHR
4.2.2	Configure Network	AGM
4.2.3	Install VLE Application On The Server	WPM
4.2.4	Application Accessibility	REM
4.2.5	Installation Complete	REM
5.0	Testing	
5.1	User Interface	
5.1.1	Configure - User Access Computer	COL
5.1.2	Install Client Software	AGM
5.2.3	User Can Access VLE Application Successfully	WPM
5.2	Project Handover	
5.2.1	Client Acceptance	REM

Figure 6.5: Work breakdown structure in tabular format

Exercise 2

Consider planning a class party to celebrate passing your examinations.

- 1 Identify the main deliverables.
- 2 Identify the sub-deliverables.
- 3 Identify the work packages.

■ Cost breakdown structure

The WBS was actually developed as a method of cost control to manage budgets on major defence projects (Morris, 1997). However, this use of the WBS is now often referred to as **cost breakdown structure** (CBS). The CBS represents a hierarchical breakdown of the total project budget into the budgets for the deliverable, sub deliverables and work packages, although it does not allow for the set-up and running costs of the project. Despite this, the CBS is the first attempt at estimating the budget costs of a project. The accuracy of the estimate will increase progressively as the level of detail of within each package increases.

The expenditure of each work package is made up of three elements:

- The cost of resources required to deliver the work package
- The cost of materials required to deliver the work package
- The cost of equipment use required to deliver the work package – this includes the hire or purchase of special equipment specifically for the work package.

Costs are estimated using a process of 'roll-up'. Rather than the dividing the project from the top down, as within the WBS, the cost of each work package is accumulated and rolled up to the ascending sub deliverable at the next level. Each sub deliverable is rolled-up to the next level, thus providing an estimated budget for each main deliverable, as shown in Figure 6.6.

A **cost account** (CA) is created for each work package within the CBS. This is a control point created where the performance of the work package is monitored and controlled. Analysing the data from each individual control account enables the project manager to identify which work packages deviate from the budget, and the reason for the deviation. However, on larger projects where the number of work packages could run into thousands, the CA is created at the next level above the work packages, in order to reduce the complexity of analysis.

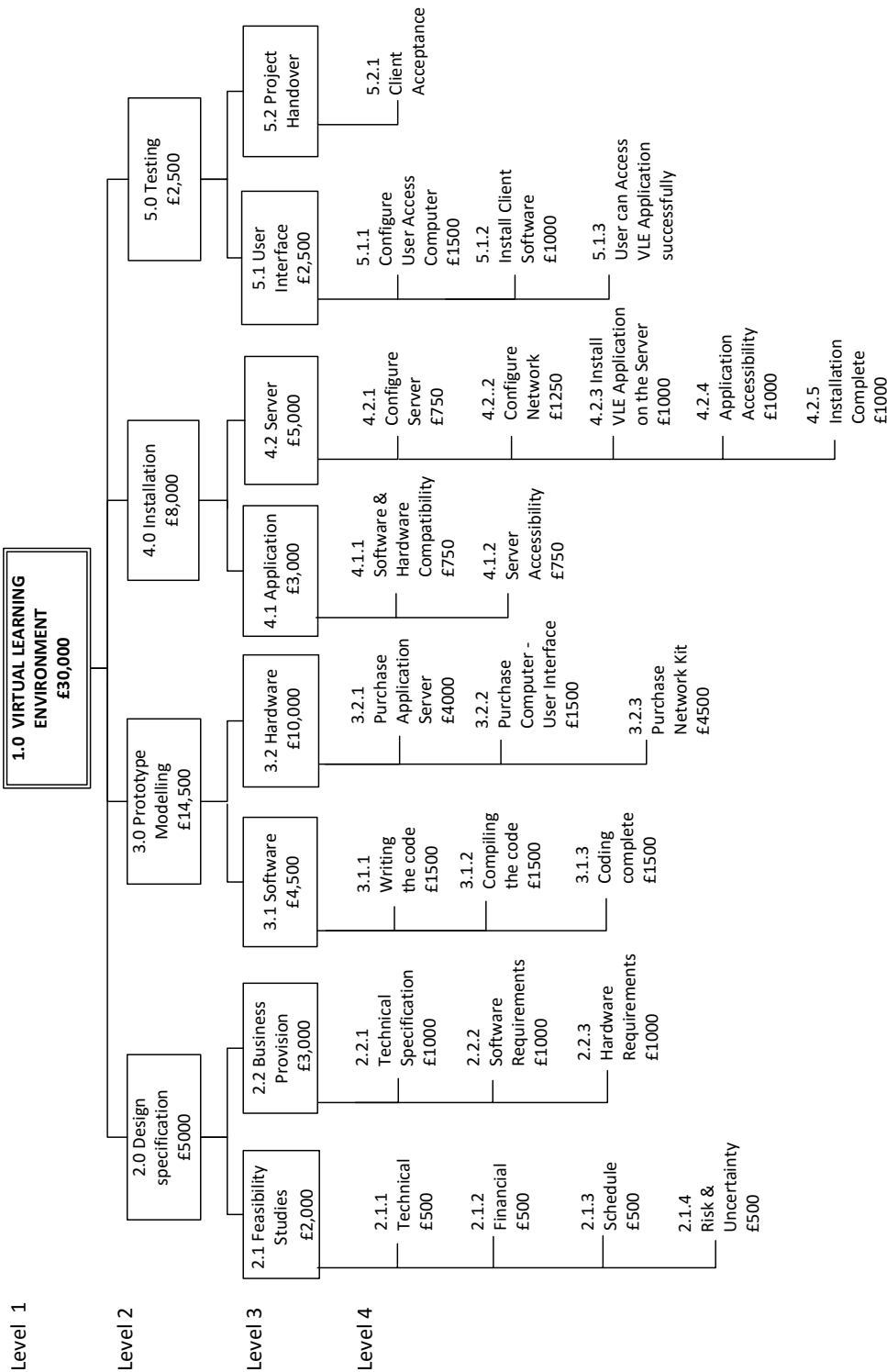


Figure 6.6: Cost Breakdown structure showing “roll-up”

6.4 Responsibility assignment matrix

As we have now established, projects are complex arrangements with a significant number of activities, tasks and responsibilities. These all need to be controlled and directed by the project manager. The responsibility assignment matrix (RAM) also called a linear responsibility chart, summarizes the tasks to be accomplished and who is responsible for what on the project

The RAM is a control chart that lists all the activities identified from the WBS and allocates responsibility of the tasks to the available resources. It effectively integrates the responsible personnel identified within the OBS, with the scope of work identified within the WBS, as illustrated in Figure 6.7.

Project Responsibility Matrix (RAM)													
Project Details													
Project name:													
Prepared by					Date				Revision				
Project Manager					Project sponsor								
Resource Allocation													
WBS	Activity Title	Project Manager	Assistant PM	WP Manager									
											</		

Figure 6.7: Sample responsibly assignment matrix

At a basic level the RAM identifies the project personnel responsible for delivering each element of the project scope. This is useful for identifying the responsible work package managers and those project team members responsible for managing the deliverables and sub deliverables. However, a more complex RAM will also identify:

- The person/team/organisation responsible for executing the work element.
- The person responsible for authorising the work element. This would either be the project manager or other senior project team members.
- The person accountable for delivering the work element. This is the person who reports on its progress. Normally, the work package manager.
- Any supporting personnel or assistants required to manage the work activity.
- The person responsible for signing of the work element and formally confirming completion of the work package.

Not only do RAM's formalise the project responsibilities, they also provide a means for the project team to review the work load and agree on who is doing what within the project. This becomes invaluable further on in the project life cycle, where the project personnel can clarify the responsible bodies of dependant activities and those personal contributing to the current activities.

Exercise 3

You have been asked to manage a graduation ball for 100 guests. This will be held at a local hotel and will include catering, entertainment, photography, speeches and dancing. Each guest will pay £25 and the total cost of the project should not exceed the income generated. Develop a work breakdown structure for this project and try to identify all of the major components and provide four levels of detail.

6.5 Project communication planning

The final stage of the project definition phase involves communicating the project documents to the project team members and determining the information and communication needs of the project stakeholders. It is surprising, but 90% of the project manager's duties involve project communication, yet it is rare that a project manager dedicates sufficient effort to developing a project communication plan (Schwalbe, 2009). This is very short-sighted of project managers. Unless the responsible stakeholders have the necessary project information they will be unable to fulfil their project obligations, make project-related decisions confi-

dently or contribute to the project effectively. It is the responsibility of the project manager to ensure that all stakeholders have the necessary project information.

Table 6.1: Shale oil research project communication plan

Type of information	Target audience	Frequency of communication	Method of communication	Provider
Milestone report	Senior management and project manager	Bi-monthly	E-mail and hardcopy	Project office
Project status report & agendas	Staff and customer	Weekly	E-mail and hardcopy	Project manager
Team status report	Project manager and project office	Weekly	E-mail	Team recorder
Issues report	Staff and customer	Weekly	E-mail	Team recorder
Escalation reports	Staff and customer	As required	Meeting and hardcopy	Project manager
Outsourcing performance	Staff and customer	Bi-monthly	Meeting	Project manager
Accepted change requests	Project office, senior management, project manager, staff and customer	As required	E-mail and hardcopy	Design department
Oversight gate decisions	Senior management and project manager	As required	Meeting and hardcopy	Oversight group and/or Project office

The project communication plan is a quality planning document that provides the communication guidelines for the project. All project team members must adhere to the communication plan and there must be a process for recording that the information required has been communicated and the date of the communication. Whereas communications may vary depending on the project, a typical communication management plan should include:

- What information needs to be collected and when?
- Who will receive the information?
- What methods will be used to gather and store information?
- What are the limits, if any, on who has access to certain kinds of information?
- When will the information be communicated?
- How will it be communicated?
- Stakeholder communication requirements.
- Information to be communicated. This should include the format, content and level of detail required.
- The person responsible for communicating the information.

- The project stakeholder who will receive the information.
- The method of sending the information (e-mail, post, internal memorandum).
- Frequency of the communication.
- Escalation procedures for resolving issues.
- Revision/edition of the communication management plan.
- Glossary of common project terminology, including acronyms.

■ Document management systems

The advancement of communication technology has enabled project information to be managed and communicated over the internet using an online document management system. This does have a number of advantages:

- Allows documents to be uploaded and accessed from any location by authorised personnel.
- Allows the project manager to track communications and ensure that the relevant stakeholders are receiving the relevant project information.
- Creates a file management system using the project WBS coding.
- Automatically tracks iterations of project documentation and advises all team members when new documents are uploaded.
- Provides fast retrieval of documentation using the software search engine.
- Automatically logs and confirms receipt of project information.

Document management systems also have the added advantage of:

- Saving time through instant correspondence.
- Saving cost by eliminating printing, photocopying and postage.
- As the projects involve an immense amount of documentation, moving to a paperless system makes a small contribution to the environment.

Major organisations tend to create their own document management system hosted on the company intranet. However there are a number of secure generic packages available online that allow for web-based project communication. Furthermore, project management packages, such as Microsoft Project have a facility to share Gantt charts and project plans online. In considering the benefits of this form of communication and the ever increasing technological advancement, it is likely that all project documentation will soon be managed this way.

The importance of establishing up-front a plan for communicating is important project information cannot be overstated. Many of the problems that plague a project can be traced back to insufficient time devoted to establishing a well-grounded internal communication plan.

Exercise 4

Develop a communication plan for an airport security project. The project entails installing the hardware and software system that (1) scans a passenger's eyes, (2) fingerprints the passenger, and (3) transmits the information to a central location for evaluation

Summary

The **project scope** is a description of the final outcome the project expects to achieve and the work content required to achieve the final outcome. It is concerned with *what is* and *what is not* involved in the project.

The **project charter** is the document that formally authorises the project and allows the project manager to acquire project resources. It is primarily concerned with the business needs and justification for investment in the project. It therefore only requires a statement of the broad project scope and objectives.

The detailed scope is presented in the **scope statement**. This document provides the baseline against which the project is planned and progress is measured. At a minimum it defines the project objectives, deliverables, project boundary, constraints, milestones and critical success factors.

Project authorisation is often dependant on a satisfactory **feasibility study**. This is detailed study that evaluates the project scope on technical, operational, financial and schedule feasibility. The feasibility study should also identify possible solutions as well as identify risks.

The **work breakdown structure** (WBS) divides and groups the total scope of the project into the major project deliverables. These are further subdivided to the descending levels until the work package level is reached where the activity can be controlled in terms of progress, cost and resources. All elements within the WBS must have a logical code assigned, for referencing and easy identification. Variations of the WBS include the **cost breakdown structure**.

The **responsibility assignment matrix** (RAM) successfully integrates the work content of the WBS with the allocated resources within OBS to provide a control chart assigning the responsibility of activities.

The **project communication plan** is a quality planning document that provides the communication guidelines for the project. This includes the lists of stakeholders receiving and sending the communication, details of the communication and frequency of the communication.

Case study: The wedding planner



Photo: Eric Chan, Wikimedia Commons

The past 100 years have seen the wedding industry evolve from hiring a local village dressmaker to becoming a multi-billion dollar industry involving bridal wear, tailors, wedding venues, caterers, magazines, retailers, fashion designers, jewellers, florists, hair dressers, beauty therapists, printers, photographers, web designers and wedding planners. Frequently used for society and high profile weddings, it is the responsibility of the wedding planner to organise and manage the wedding on behalf of the wedding party. This includes:

- ☐ Advising the wedding party on themes, venues and process
- ☐ Coordinating all the suppliers who are providing services to the wedding
- ☐ Scheduling the event
- ☐ Managing the budget
- ☐ Organising guests
- ☐ Arranging travel accommodation
- ☐ Facilitating communication between parties
- ☐ Allocating responsibility of task
- ☐ Managing all risks and emergencies

It is essential that before the wedding preparations begin, the wedding planner must clearly understand the expectations of the bride and groom. This is done through the initial consultation period where the scope of the project is developed. The wedding planner will need to establish the particular theme, preferred venues, suppliers, dates,

and the budgets, number of guests and any special arrangements. The planner must also establish the scope of their responsibilities. Are they organising only the ceremony and reception, or does the extent of the project extend to arranging the honeymoon, dealing with the media and organising the bachelor party and bridal shower?

The work breakdown structure will serve a number of purposes. In the first instance it will define all the activities within the total scope of the project; secondly, it will verify budget and budget allocation on each activity; most importantly for the wedding planner, it will enable development of the project responsibility matrix, identifying the suppliers responsible for executing the work and the method of ensuring the work is complete. As shown in Figure 4.11, level 2 of the WBS define the main deliverables as identified during the client consultation exercise. Some these deliverables will be managed and executed by a specialist company, such as a photographer or security firm. In these cases the wedding planner has only one point of control for the main deliverable. Whereas, major deliverables such as '5.0 Reception' would be broken down to work package level, with control points created at levels 4 and 5. These items will need greater control and coordination, and it is the wedding planner's responsibility to ensure activities occur according to the schedule of day. Therefore, tools such as responsibility charts and check-list are invaluable to the wedding planner, as through these everyone knows what they are supposed to do and when they are supposed to do it.

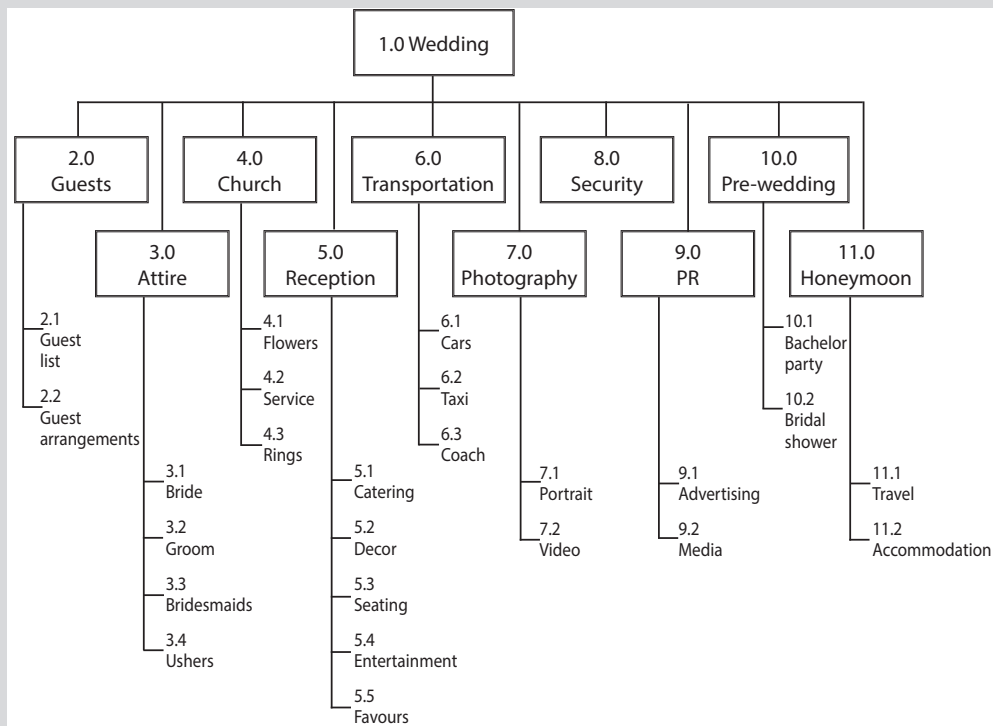


Figure 6.8: WBS for society wedding

Although the focus of the event is on the actual wedding day, the wedding planner needs to maintain control before and after the wedding. Before, the wedding all stakeholders involved in the wedding need to be coordinated. Whether they are suppliers, support or the bridal party, they must be advised as to their roles and responsibilities from the wedding planner. During the wedding all attendants, waiters, waitresses, photographers and drivers must be in the right place at the right time and all must know exactly what they are supposed to do and when. All guests must be assisted in being where they should be and at the right time. This includes advising of the day schedule, seating arrangements and guidance for toasts. After the wedding, it is the responsibility of wedding planner to ensure that all suppliers and assistants are paid.

Case study questions

- 1 What work packages would be included in the major deliverable 5.0 Reception?
- 2 What methods of communication would be suitable for managing an event such as a society wedding?

End of chapter review questions

- 1 What are the main elements of a typical scope statement?
- 2 What questions does a project objective answer and what would be an example of a good project objective?
- 3 What kinds of information are included in a work package?
- 4 When would it be appropriate to create a responsibility matrix rather than a full-blown WBS?
- 5 How does a communication plan benefit management of projects?

References

- APM (2006) *APM Body of Knowledge* Bucks, Association of Project Management.
- DOD/NASA (1962) *DOD/NASA PERT/ Cost Guide*, Washington, DC, US Government Printing Office.
- Morris, P. W. G. (1997) *The Management of Projects*, London, Thomas Telford.
- Obradovitch, M. M. & Stephanou, S. E. (1990) *Project Management: Risk and Productivity*. Oregon, Daniel Spencer.
- OGC (2005) *Managing Successful Projects with PRINCE2*, Norwich, The Stationary Office.
- Pinto, J. K. (2013) *Project Management: Achieving Competitive Advantage*, New Jersey, Pearson Education Inc.
- PMI (2013) *A Guide to the Project Management Body of Knowledge: PMBOK guide*, Fifth Edition. Pennsylvania Project Management Institute Inc.
- Schwalbe, K. (2009) *Introduction to Project Management* Boston MA, Course Technology Cengage Learning.