Introduction to Project Management
# Table of Contents

Outcomes ii  
Research Methods 1  
• Key Requirements of Good Research 1  
Project Management Building Blocks 2  
• Defining a Project 2  
• Stakeholders 3  
• Project Phases and the Project Life Cycle 4  
Project Management in the Business Environment 9  
• Relationship with Management Disciplines 9  
• What is a Project? 20  
• Organisational Levels 21  
• How does an organisation start a project? 22  
Project Initiation Phase 23  
• Stakeholder Verification 23  
• Project Charter 24  
• Project Charter Format 24  
Project Definition Phase 30  
• Project Definition Workshop 30  
• Project Purpose 31  
• Project Objectives 31  
• Deliverables Breakdown Structure 31  
• Project Scope 32  
• Project Strategy 32  
• Project Responsibilities 35  
• Preliminary Communication Plans 36  
• Risk Analysis 36  
• Initial Cost Estimates 39  
• Project Completion Phase 39  
• Quality Assurance 40  
• Reviews and Audits 40  
• Problem Resolution 40  
• Process Improvement 40  
• Recommended Reading 47  
• Endnotes 48
Outcomes

- Define a project and different project types
- Describe the roles and responsibilities of various participants
- Identify stakeholders and develop a stakeholder strategy
- Be familiar with project and product life cycles
- Develop a Project Definition Report
- Develop a Deliverables and work Breakdown Structure
- Perform a Network analysis
- Perform a Risk Analysis
- Develop and use a Change Management Process
- Close a Project
Research Methods

Key Requirements of Good Research

1. **Utility**
   Can the research information be used?

2. **Timeliness**
   Will the research information be available by the time the decision has to be made?

3. **Cost effectiveness**
   Will the financial benefits outweigh the cost?

4. **Accuracy**
   Will the information be accurate?

5. **Reliability**
   Will the information be reliable?
Project Management Building Blocks

Defining a Project

The Macquarie Concise Dictionary defines ‘PROJECT’ as

- 1. Something that is contemplated, devised, or planned; a plan; a scheme; an undertaking.
- To propose, contemplate, or plan

Hence, Project Management can be defined as the application of knowledge, skills, tools and techniques to a broad range of activities to meet the requirements of the particular project.

Project management knowledge and practices are best described in terms of their component processes. These processes can be placed into five process groups:

- Initiating,
- Planning,
- Executing,
- Controlling,
- Closing.

And nine management areas:

1. Integration management,
2. Scope management,
3. Time management,
4. Cost management,
5. Quality management,
6. Human resource management,
7. Communications management,
8. Risk management,
9. Procurement management.
### Stakeholders

The stakeholders are the most important parties involved in a project. They have the most to gain or lose depending on the project’s outcome.

1. A **stakeholder** was originally a person who holds money or other property while its owner is being determined. The situation often arises when two persons bet on the outcome of a future event and have a third person act as the stakeholder, holding the money (or "stake[s]") they have both wagered (or "staked") until the event occurs. Courts sometimes act as stakeholders, holding property while litigation between the possible owners resolves the issue of which one is entitled to the property, and trustees often act as stakeholders, holding property until beneficiaries come of age, for example. An "escrow agent" is one kind of trustee who is a stakeholder, usually in a situation where part of the purchase price of property is being held until some condition is satisfied. It is a very old concept in the law.

*Post, Preston, Sachs (2002)*, in their theory called Stakeholder view, use the following definition of the term "stakeholder": "The stakeholders in a corporation are the individuals and constituencies that contribute, either voluntarily or involuntarily, to its wealth-creating capacity and activities, and that are therefore its potential beneficiaries and/or risk bearers."

This definition differs from the older definition of the term stakeholder in (Freeman, 1984) that also includes competitors as stakeholders of a corporation.

In the last decades of the 20th century, the word "stakeholder" has evolved to mean a person or organisation that has a legitimate interest in a project or entity. In discussing the decision-making process for institutions -- including large business corporations, government, agencies and non-profit organizations -- the concept has been broadened to include everyone with an interest (or "stake") in what the entity does. That includes not only its vendors, employees, and customers, but even members of a community where its offices or factory may affect the local economy or environment. In that context, "stakeholder" includes not only the directors or trustees on its governing board (who are stakeholders in the traditional sense of the word) but also all persons who "paid in" the figurative stake and the persons to whom it may be "paid out" (in the sense of a "payoff" in game theory, meaning the outcome of the transaction).
For example in a project of - say - a professional landlord undertaking the refurbishment of some rented housing that is occupied while the works are being carried out, key stakeholders would be the residents, neighbours (building works creates a nuisance for them), the tenancy management team and housing maintenance team within the landlord. Other stakeholders would be funders and the design and constructing team.

The holders of each separate kind of interest in the entity’s affairs are called a “constituency,” so there may be a constituency of stockholders, a constituency of adjoining property owners, a constituency of banks the entity owes money to, and so on. In that usage, “constituent” is a synonym for "stakeholder."

In the field of corporate governance and corporate responsibility a major debate is ongoing about whether the firm should be managed for stakeholders, stockholders or customers. Those who support the stakeholder view usually base their arguments on three key assertions.

1) Value can best be created by trying to maximize joint outcomes. For example, according to this thinking, programs that satisfy both employees’ needs and stockholders’ wants are doubly valuable because they address two legitimate sets of stakeholders at the same time.

2) They also take issue with the preeminent role given to stockholders by many business thinkers. The argument is that debt holders, employees, and suppliers also make contributions and take risks in creating a successful firm.

3) These normative arguments would matter little if stockholders had complete control in guiding the firm. However, many believe that due to certain kinds of board of directors structures, top managers like CEOs are mostly in control of the firm.

Project Phases and the Project Life Cycle

Projects go through definite and describable phases, meaning that each phase can be brought to closure, prior to the next phase beginning.

The transition between each phase is an ideal time to update planning baselines, to conduct management reviews, and to evaluate project costs and prospects. Projects should be structured to take advantage of the natural phases that occur as work progresses. The phases should be defined in terms of schedule and also in terms of specific accomplishments.
Initiating

Projects will be initiated for any number of reasons. These could be:

- To solve a current problem;
- As a request of management or stakeholders;
- To meet economic and market demands;
- For compliance with changes in legislation and Codes of Practice;
- For process improvement;
- To control costs;
- In order to gain technical advantage over competitors;
- To pursue a business strategy or future opportunity.

It is important that a **Project Vision** is set to begin with. This involves defining the expected value that the project will bring to your organisation and the reason why the project will make the difference.

Planning

A project is a one-time set of activities with a defined beginning and a defined end. It may be the completion of a Government Tender, or the building of a new commercial facility, Implementation of a new computer system into your organisation or development of new products and services.

For projects to succeed, it is important that the planning stage be completed with accuracy to ensure effective execution and control.

There are a number of models that can be used in the planning stage.

**Gantt Chart**

This is a specialised bar chart developed by Henry L Gantt showing current progress on each major project activity relative to necessary completion dates.
PERT
Standing for Program Evaluation and Review Technique, PERT is a network planning method for managing projects. It involves six main steps:

- All project activities must be clearly defined,
- Sequencing requirements among activities must be identified,
- A diagram reflecting sequence relationships must be developed,
- Time estimates for each activity must be determined,
- The network must be evaluated by calculating the critical path. Various activities can be scheduled,
- As the project progresses, actual activity times must be recorded so any schedule revisions and adjustments needed, can be made.

*(Adam Jr and Ebert 1992)*

A network diagram is a graphic depiction of the interrelationships between each of the activities (work components to be accomplished). The beginning and end of each activity is indicated by a node or event. The Critical Path of the PERT can be described as the path in the network that will take the longest to complete.

Other Planning Techniques
- **Linear programming** is a quantitative tool for planning how to allocate limited or scarce resources so a single criterion of the project is optimised;
- **Queuing, or waiting-line models** are mathematical models describing operating characteristics of queuing situations, in which service is provided to persons or units waiting in line;
- **Routing, or distribution models** are quantitative models assisting managers in planning the most effective and economical approaches to distribution problems, and;
- **Simulation models**, being a mathematical imitation of reality.

Executing

2 “Project tracking and control processes commence with **project baseline setting**. Once deliverable specifications are frozen and you have a baseline plan, you have a **foundation for proper tracking** and control. Review the process for **scope change control** with the project team and begin using it to resist unnecessary changes.”
Refine your communication processes to meet the needs of your team, stakeholders, and sponsor. Document your project infrastructure execution decisions and your communication plan. Establish and deliver on expectations for communicating, meetings, and reporting.
Controlling

3 “The Status Cycle

Project monitoring depends on a four-stage cycle that repeats (weekly for most projects) until the end of the project.

The first stage of the cycle is inbound communication, status collection by the project leader.

The second stage of the cycle includes comparison of status data to the baseline plan and plan variance analysis. The data analysis also involves evaluation of project diagnostic metrics, including those used for earned value management.

The third stage is for project control, responding to any timing or resource problems using the processes of integrated change control, principally cost control, schedule control, and scope change control. When project variances are beyond your ability to remedy, promptly seek help from those with more authority through problem escalation.

The fourth and final stage is outbound communication, to inform people of what has happened on the project. Examples include performance reporting, information distribution, and any project presentations. These follow the analysis and planning of the prior stages, so that you can include credible plans for recovery along with any bad news you need to deliver.

At the end of each cycle, archive all status, change, and other project reporting in the project management information system.

Review

For projects longer than six months in duration, conduct periodic project reviews to revalidate the project plans and collect new information. When necessary, negotiate project changes and validate a new project baseline to reflect reality.

Closure

When the project is completed, get formal acceptance of your deliverable through scope verification and prepare a final status report to inform everyone that the project is over. Complete administrative closure, by analysing the lessons learned on the project and document your recommendations.

Thanks all the team members for their contributions, and use programs for rewards and recognition when appropriate to recognise significant accomplishments. Celebrate your successes.”
Project Management in the Business Environment

Relationship with Management Disciplines

Integration Management

4 Project Integration Management

The following table addresses vital aspects of project initiation and integration management such as the project charter, the importance of project stakeholders, and project life-cycle phases and milestones.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Area</th>
<th>Project Charter</th>
<th>Life Cycle Phases and Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4</td>
<td>Minor investment, informal schedule goals, low organizational priority and visibility.</td>
<td>Define basic phases, milestones, decision points, accomplishments, and deliverables.</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Moderate investment, definite schedule target, some organizational priority and visibility.</td>
<td>Prepare project plan inputs with discussion of phases, deliverables, objectives and success criteria; establish immediate milestones within project phases.</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Significant investment, important schedule goals, medium organizational priority and visibility.</td>
<td>Include in project plan linkages between milestone approval reviews and documents, updated estimates, test results, etc.</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Major investment, critical schedule goals, substantial organizational priority and visibility, significant technical and cost risks.</td>
<td>Define event-based milestones; establish milestone exit criteria; link to deliverables, baseline documents, updates, test results, and management reviews.</td>
</tr>
</tbody>
</table>

Project Charter

- Prepare a one page memo of understanding between the sponsor and the PM outlining project objectives, resources, commitments, and constraints.
- Identify quantifiable objectives, cost and schedule targets; outline staffing commitments, funding, and assets.
- Define specific performance goals and cost and schedule thresholds; describe PM authority and organizational commitment.
- Define PM responsibilities and authority; describe specific objectives and make express commitments of staffing, funds, and assets.

Life Cycle Phases and Milestones

- Define basic phases, milestones, decision points, accomplishments, and deliverables.
<table>
<thead>
<tr>
<th>Project Stakeholders</th>
<th>The Project Plan</th>
<th>Project Management Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify project stakeholders (customers, sponsors, users, etc.) and bulletize their interests and objectives on one page; review the project plan to ensure stakeholder satisfaction will be achieved.</td>
<td>Summarize project objectives, approach, time constraints, cost estimates, and staffing plan; ensure these fit together and are realistic and achievable; define milestones; and link tasks to owners and deliverables.</td>
<td>Apply sound project management principles such as: clearly documented requirements, a realistic plan, project baseline controls, and periodic reviews; maintain a PM notebook.</td>
</tr>
<tr>
<td>Map stakeholder interests to specific initiatives to ensure satisfaction; develop, maintain, and post team success metrics; plan proactive stakeholder communications.</td>
<td>Employ planning process to build team ownership and facilitate peer review; apply systematic methods to assess cost and schedule realism; plan more heavily in risk areas; apply all PM principles in plan.</td>
<td>Include outline of proposed project management methodology in project plan document; identify vital PM systems and procedures.</td>
</tr>
<tr>
<td>Prepare stakeholder management plan, and allocate staff and budget to periodic reassessments and corrective actions; focus specific initiatives to achieve stakeholder satisfaction.</td>
<td>Prepare a plan that links the requirements, task plans, timelines, cost estimates, staffing, deliverables, and test plan; make sure cost, scope, and time are bounded; define success criteria for milestones.</td>
<td>Document PM approach, including baseline management, reviews, data collection, project metrics, and control responsibilities; monitor and report status of PM implementation.</td>
</tr>
<tr>
<td>Prepare and update a structured stakeholder analysis supporting a stakeholder management plan; map to the quality plan, risk management plan, and to project reporting initiatives.</td>
<td>Produce an integrated family of documents defining all project activities and disciplines; plan for mapping and traceability throughout major documents; systematically address all Project Management areas.</td>
<td>Prepare project management plan describing methodology, reviews, baseline controls, and organizational roles and responsibilities; establish metrics to track integrity of PM disciplines.</td>
</tr>
</tbody>
</table>
Scope Management

The scope of a project comprises a combination of the end products of the project and the work required to produce them. Scope management involves the initial justification of the project and initial project start-up, as well as the ongoing definition of deliverables, objectives and constraints. Project scope forms the foundation of the project plan and the basis from which other related plans are developed and the focus of their integration.

Time Management

Time Management is the management and control of time. It is affected through the use of planners, calendars, and the like. Implementing a routine is a method of scheduling actions, which enforces a regiment to fit with a person's flow of work and production activities. Its aim is to increase the effectiveness of a person in getting the things done that need to be done. Time management is somewhat of a misnomer as time passes without regard to what we do; the only item we can manage is ourself.

Hence time management is mostly about self-management. There are a number of tools, techniques and attitudes that can help:

- To do list
- Goal setting
- Being proactive
- Setting priorities
- Looking at win-win opportunities
- Understanding others

Cost Management

In terms of activity-based or project based cost accounting, cost management involves control of activities to eliminate waste, improve cost drivers, and plan activities within the project. This process should influence the project managers’ strategy in setting the processes involved in the projects completion.

Project accounting is the practice of creating financial reports specifically designed to track the financial progress of projects, which can then be used by managers to aid project management.

Standard accounting is primarily aimed at monitoring financial progress of organizational elements (geographical or functional departments, divisions and the enterprise as a whole) over defined time periods (typically weeks, months, quarters and years).
Projects differ in that they frequently cross organizational boundaries, may last for anything from a few days or weeks to a number of years, during which time budgets may also be revised many times. They may also be one of a number of projects that make up a larger overall project or program.

Consequently, in a project management environment costs and revenues are also allocated to projects, which may be subdivided into a work breakdown structure, and grouped together into project hierarchies. Project accounting permits reporting at any such level that has been defined, and often allows comparison with historical as well as current budgets.

It is usually necessary for employees to fill out a timesheet in order to generate the data to allocate project costs.”

Quality Management

Quality Policy

- It is relevant to the purpose of the business
- It is meaningful to everyone affected by it; it has a significant and well-understood influence on everyone’s working life
- Its intention is obvious and it is clearly and exactly defined

From: The Quality Standards Handbook, Johan Kruithof and Jeff Ryall

Quality: A Working Definition

‘Quality is consistently meeting the continuously negotiated expectations of customers and other stakeholders in a way that represents value for all concerned’

From: The Quality Standards Handbook, Johan Kruithof & Jeff Ryall

Communicating Quality

A system, no matter how good, is of no practical use without people who understand the benefits of working with it, believe in it, use it and ultimately, communicate it.
Making the Commitment

The commitment to quality starts with a personal conviction to Total Quality. As a leader, you must be clear about who you are, where you are going and how you will get there. A leader brings a certain capability that inspires people in the organisation to move forward. It is therefore the **how** component of communication that is intrinsic to the implementation success.

**Quality Costs**
A defective product or service costs in at least 4 ways:
1. Wasted time and materials
The time and materials taken to make the defective product or deliver the poor service
2. Lost time
The time taken to fix the defect or correct the service
3. Additional Lost Time
The time lost in point 2 cannot be used to make a new product or deliver another service

**Human Resource Management**
The Human Resources Management function includes a variety of activities, and key among them is deciding what staffing needs will be required for the project and whether to use independent contractors or hire employees to fill these needs, recruiting and training the best employees, ensuring they are high performers, dealing with performance issues, and ensuring your personnel and management practices will assist in a successful completion of the project.

Activities also include managing your approach to employee benefits and compensation, employee records and personnel policies. Human resources should also ensure that employees have -- and are aware of -- personnel policies, which conform to current regulations and legislation.
Communications Management

Communication management is the systematic:

- planning,
- implementing,
- monitoring, and
- revision of all the channels of communication

within an organisation and the project boundaries.

Communication management is the organisation and dissemination of new communication directives connected with the project. Aspects of communications management include:

- developing corporative communication strategies,
- designing internal and external communications directives, and
- controlling information flows, including on-line communication.

Communications managers face ongoing challenges due to new technologies.

Effective organisational communications are an essential precondition of effective management. Organisations with more than one level of management suffer from communications problems that can interfere with almost any aspect of the organisation, as well as with corrective actions.

The purpose of it is to ensure that both the managers and workers have access to the same information. In this way, theoretically, they will be able to agree on the tasks to improve the organization and the project, and everyone will work together in a better-coordinated way.

In practice, the same incentives have to be applied to managers and workers as well, or else they develop different goals, negating the effect of the shared information.

One of the simplest practical ways of implementing communications management is to provide a simple, hierarchical bidirectional communication method, and a simple incentive.

The role of the project communication manager is:

- Design of the projects communications structures
- Define communication principles and standards
- Formulated the communications goals for the project
- Managing and monitoring information flows
- Organising crisis communications
- Implement communications strategies
Risk Management

Risk Management is the process of measuring or assessing risk and then developing strategies to manage the risk. In general, the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative affect of the risk, and accepting some or all of the consequences of a particular risk. Traditional risk management, which is discussed here, focus on risks stemming from physical or legal causes (e.g. natural disasters or fires, accidents, death, and lawsuits). Financial risk management, on the other hand, focuses on risks that can be managed using traded financial instruments. Regardless of the type of risk management, all large corporations have risk management teams and small groups and corporations practice informal, if not formal, risk management.

In ideal risk management, a prioritisation process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled later. In practice the process can be very difficult, and balancing between risks with a high probability of occurrence but lower loss vs. a risk with high loss but lower probability of occurrence can often be mishandled.

Risk management also faces a difficulty in allocating resources properly. This is the idea of opportunity cost. Resources spent on risk management could be instead spent on more profitable activities. Again, ideal risk management spends the least amount of resources in the process while reducing the negative effects of risks as much as possible.

Steps in the risk management process

Identification

A first step in the process of managing risk is to identify potential risks. Risks are about events that, when triggered, will cause problems. Hence, risk identification can start with the source of problems, or with the problem itself.

Source analysis Risk sources may be internal or external to the system that is the target of risk management. Examples of risk sources are: stakeholders of a project, employees of a company or the weather over an airport.

Problem analysis Risks are related to fear. For example: the fear of losing money, the fear of abuse of privacy information or the fear of accidents and casualties. The fear may exist with various entities, most important with shareholder, customers and legislative bodies such as the government.
When either source or problem is known, the events that a source may trigger or the events that can lead to a problem can be investigated. For example: stakeholders withdrawing during a project may endanger funding of the project; privacy information may be stolen by employees even within a closed network; lightning striking a B747 during takeoff may make all people onboard immediate casualties.

The chosen method of identifying risks may depend on culture, industry practice and compliance. The identification methods are formed by templates or the development of templates for identifying source, problem or event. Common risk identification methods are:

**Objectives-based Risk Identification** Organizations and project teams have objectives. Any event that may endanger achieving an objective partly or completely is identified as risk.

**Scenario-based Risk Identification** In scenario analysis different scenarios are created. The scenarios may be the alternative ways to achieve an objective, or an analysis of the interaction of forces in, for example, a market or battle. Any event that triggers an undesired scenario alternative is identified as risk.

**Taxonomy-based Risk Identification** The taxonomy in taxonomy-based risk identification is a breakdown of possible risk sources. Based on the taxonomy and knowledge of best practices, a questionnaire is compiled. The answers to the questions reveal risks. Taxonomy-based risk identification in software industry can be found in CMU/SEI-93-TR-6.

**Common-risk Checking** In several industries lists with known risks are available. Each risk in the list can be checked for application to a particular situation.

**Assessment**

Once risks have been identified, they must then be assessed as to their potential severity of loss and to the probability of occurrence. These quantities can be either simple to measure, in the case of the value of a lost building, or impossible to know for sure in the case of the probability of an unlikely event occurring. Therefore, in the assessment process it is critical to make the best educated guesses possible in order to properly prioritize the implementation of the risk management plan.

**Potential Risk Treatments**

Once risks have been identified and assessed, all techniques to manage the risk fall into one or more of these four major categories: (Dorfman, 1997)

- **Transfer**
- **Avoidance**
- **Reduction** (aka Mitigation)
- **Acceptance** (aka Retention)

Ideal use of these strategies may not be possible. Some of them may involve tradeoffs that are not acceptable to the organization or person making the risk management decisions.
Risk avoidance
Includes not performing an activity that could carry risk. An example would be not buying a property or business in order to not take on the liability that comes with it. Another would be not flying in order to not take the risk that the airplane were to be hijacked. Avoidance may seem the answer to all risks, but avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed. Not entering a business to avoid the risk of loss also avoids the possibility of earning the profits.

Risk reduction
Involves methods that reduce the severity of the loss. Examples include sprinklers designed to put out a fire to reduce the risk of loss by fire. This method may cause a greater loss by water damage and therefore may not be suitable.

Risk retention
Involves accepting the loss when it occurs. True self insurance falls in this category. Risk retention is a viable strategy for small risks where the cost of insuring against the risk would be greater over time than the total losses sustained. All risks that are not avoided or transferred are retained by default. This includes risks that are so large or catastrophic that they either cannot be insured against or the premiums would be infeasible. War is an example since most property and risks are not insured against war, so the loss attributed by war is retained by the insured. Also any amounts of potential loss (risk) over the amount insured is retained risk. This may also be acceptable if the chance of a very large loss is small or if the cost to insure for greater coverage amounts is so great it would hinder the goals of the organization too much.

Risk transfer
Means causing another party to accept the risk, typically by contract or by hedging. Insurance is one type of risk transfer that uses contracts. Other times it may involve contract language that transfers a risk to another party without the payment of an insurance premium. Liability among construction or other contractors is very often transferred this way. On the other hand, taking offsetting positions in derivative securities is typically how firms use hedging to financial risk management: financially manage risk.
Some ways of managing risk fall into multiple categories. Risk retention pools are technically retaining the risk for the group, but spreading it over the whole group involves transfer among individual members of the group. This is different from traditional insurance, in that no premium is exchanged between members of the group up front, but instead losses are assessed to all members of the group.

Create the plan
Decide on the combination of methods to be used for each risk

Implementation
Follow all of the planned methods for mitigating the effect of the risks. Purchase insurance policies for the risks that have been decided to be transferred to an insurer, avoid all risks that can be avoided without sacrificing the entity's goals, reduce others, and retain the rest.

Review and evaluation of the plan
Initial risk management plans will never be perfect. Practice, experience, and actual loss results, will necessitate changes in the plan and contribute information to allow possible different decisions to be made in dealing with the risks being faced.

Limitations
If risks are improperly assessed and prioritized, time can be wasted in dealing with risk of losses that are not likely to occur. Spending too much time assessing and managing unlikely risks can divert resources that could be used more profitably. Unlikely events do occur, but if the risk is unlikely enough to occur, it may be better to simply retain the risk, and deal with the result if the loss does in fact occur.

Prioritizing too highly the Risk management processes itself could potentially keep an organization from ever completing a project or even getting started. This is especially true if other work is suspended until the risk management process is considered complete.

Areas of risk management
As applied to corporate finance, risk management is a technique for measuring, monitoring and controlling the financial or operational risk on a firm's balance sheet.

Enterprise Risk Management
In Enterprise Risk Management, a risk is defined as a possible event or circumstance that can have negative influences on the Enterprise in question. Its impact can be on the very existance, the resources (human and capital), the products and services, or the customers of the Enterprise, as well as external impacts on Society, Markets or the Environment. ((Author's Note Amazingly whenever Risk is considered this is often the last Risk to be formally evaluated with such things as Project Risk receiving much higher attention??))

Project management
In project management, a risk is more narrowly defined as a possible event or circumstance that can have negative influences on a project. Its influence can be on the schedule, the resources, the scope and/or the quality.
In project management parlance, when a risk escalates, it becomes a **liability**. A liability is a negative event or circumstance that is hindering the project.

Some of the processes for assessing risk include the following (the parentheses contain some of the jargon used to refer to them).

- Choosing unique identifiers for referring to the same risk in company or project documents **identification**.
- Describing the risk and how it could become a liability **description**.
- Assessing the consequences of that **effect**.
- Considering what precautions could be taken to prevent it **precaution**.
- Drawing up contingency plans or procedures for handling it **contingency**.
- Categorizing the risk as new, ongoing or closed **risk status**
- Estimating the probability of the risk becoming a liability **Risk escalation probability, \(P\)**
- Estimating the consequences in terms of time for the project **Schedule impact, \(S\)**

In addition, every probable risk can have a pre-formulated plan to deal with it to deal with its possible consequences (to ensure **contingency** if the risk becomes a **liability**).

- From the information above and the average cost per employee over time, or **Cost Accrual Ratio**, a project manager can estimate
- the cost associated with the risk if it arises, estimated by multiplying employee costs per unit time by the estimated time lost **cost impact, \(C\)**
  \[ C = \text{Cost Accrual Ratio} \times S \]
- the probable increase in time associated with a risk **schedule variance due to risk, \(Rs\)**
  \[ Rs = P \times S \]
  o Sorting on this value puts the highest risks to the schedule first. This is intended to cause the greatest risks to the project to be attempted first so that risk is minimized as quickly as possible.
  o This is slightly misleading as **schedule variances** with a large \(P\) and small \(S\) and visa-versa are not equivalent. (The risk of the RMS Titanic sinking vs. the passengers’ meals being served at slightly the wrong time).
- the probable increase in cost associated with a risk **cost variance due to risk, \(Rc\)**
  \[ Rc = P \times C = P \times \text{CAR} \times S = P \times S \times \text{CAR} \]
  o sorting on this value puts the highest risks to the budget first.
  o see concerns about **schedule variance** as this is a function of it, as illustrated in the equation above.

Risk in a project or process can be due either to special causes of deviation or common causes of deviation and requires appropriate treatment. That is to re-iterate the concern about extremal cases not being equivalent in the list immediately above.

**Risk management activities as applied to project management**

In project management, risk management includes the following activities:
• Planning how risk management will be held in the particular project. Plan should include risk management tasks, responsibilities, activities and budget.

• Assigning risk officer - a team member other than a project manager who is responsible for foreseeing potential project problems. Typical characteristic of risk officer is a healthy skepticism.

• Maintaining live project risk database. Each risk should have the following attributes: opening date, title, short description, probability and importance. Optionally risk can have assigned person responsible for its resolution and date till then risk still can be resolved.

• Creating anonymous risk reporting channel. Each team member should have possibility to report risk that he foresees in the project.

• Preparing mitigation plans for risks that are chosen to be mitigated. The purpose of the mitigation plan is to describe how this particular risk will be handled – what, when, by who and how will be done to avoid it or minimize consequences if it becomes a liability.

• Summarizing planned and faced risks, effectiveness of mitigation activities and effort spend for the risk management.


**Procurement Management**

Project procurement involves the management of contracting activities from formation, such as product and contract definition, market analysis, through the tendering process up to contract formation, to contract performance, management and administration after contract award. Project procurement management concludes with contractual aspects of the project finalisation processes. Procurement activities are normally defined and planned early and refined throughout the project life cycle to ensure changing project objectives are met. Whether involvement in the procurement process is as the client, the prime contractor, or as a sub-contractor, may influence the perspective from which the procurement activities are addressed, however similar project management processes would normally apply.

**What is a Project?**

In general terms, a project is to turn an idea or work request into a defined project by specifying scope and objectives, identifying resources, and determining project approach and milestones.

Please see the beginning of this workbook for more detail.
Organisational Levels

"Review staffing procedures and Standards

For projects that will need to add staff through hiring, employee transfer, contracting, or other means, ensure that you understand the processes required and that you have commitment from your project sponsor and others in your organisation who must support and approve the process. Locate and use templates, filled out forms, and other staffing documents to minimise effort and potential problems in moving forward.

Identify the support people in your organisation (such as legal, procurement, and human resources) who will be involved, and obtain their commitment to assist your project.

Determine Skill and Effort Requirements

Assess the overall project needs for organisational support and communication, technical units, stakeholder management, user and customer interaction, and other necessary relationships. Document these interfaces, liaisons, and connections and determine how the project staff will manage them.

As part of the project resource planning, perform required skills analysis to determine the skills, knowledge, and experience levels required for necessary project work. Determine the project effort requirements through cost estimating, based on the timing and anticipated staffing of the work. Initial staffing is based on "rough order of magnitude" (ROM) analysis and estimating. Document the project staffing needs.

Develop a Project Roster

Outline the roles and responsibilities required by the project work, and determine the number of project contributors needed for each of the roles. For each identified role for which there is a capable team member already committed to the project, list the contributor by name in the project roster or organisation chart, along with contact information and other needed data. When project contributors are also committed to other projects or to non-project work, determine and document the amount of effort available, and include their availability in the overall staffing analysis. Some find it useful to distinguish between “core” project team members, assigned to the project full time throughout the work, and “extended” team members, who are essential but less involved.

For roles that are not filled (or only partially filled), decide how best to meet the need – using additional people already in the organisation, external staffing, or some other means.

Plan for Staffing

If there are unmet staffing requirements, explicitly plan for staffing acquisition. Develop a staff plan to fill team positions using hiring or internal staff. Execute procurement planning to fill staffing needs best met with external staff. As part of the planning process, compare the staffing costs with project objectives for expense, and prepare to negotiate project changes if there are significant differences.
How does an organisation start a project?

8 Start-up Workshop

Project start-up workshops go by other names, including project kick-offs, project initiation meetings, project planning workshops, and project launches.

Prepare

Justify the project start-up workshop by outlining the benefits you expect to achieve. One primary benefit of face-to-face meeting is establishing teamwork and trust on the project team. For global teams and other virtual teams, it is often the difference between project success and disaster. Additional benefits include unambiguous understanding of the project, a fast and efficient project beginning, collaborative initial project plan development, and team motivation. With these benefits come costs – for travel, time, and other investments. Build the business case for a workshop and get approval to conduct one.

Prior to the workshop, assemble the project documents you will use, including the project objective, project charter, user needs assessments, your project infrastructure decisions, and any other project and scope planning documents available.”
Project Initiation Phase

Stakeholder Verification

A Stakeholder Verification Meeting is the initial meeting to discuss the project. This meeting occurs prior to the start of a project and bring together everyone that will be involved in the project.

Purpose:

• Discuss the project.
• Gather information on the concept, purpose and the general scope of the project.
• Record the information so that it can be used to prepare a Project Definition Document or Project Proposal.
• Define a timeline for providing a response to the client with an approach to addressing the idea or need.

Benefits

• Brings the different parties of the project together.
• Defines the base of a potential project.

The result is a written document that defines a project to address the need or idea.

Further discussion could also include:

• Specifying or reference of the verification and validation plans for the project, providing the information identified in the following lines.
• Specifying the scope, tools, techniques and responsibilities for the verification and validation work activities.
• Specifying the organisational relationships and degrees of independence between development activities and verification and validation activities.
• Specifying the use of verification techniques such as traceability, milestone reviews, progress reviews, peer reviews, prototyping, simulation and modelling.
• Specifying the use of validation techniques such as testing, demonstration, analysis and inspection.
Project Charter

This is the formatted information that is collected and assembled to initiate the project. There are a number of terms that could be used in this instance:

- Specifications
- Tender specifications
- Proposal
- Statement of Work
- Project definition document
- Plan of record
- Project data sheet

A project charter is the first step in defining your project. It takes place in the define, measure, analyse, improve and control step, and can make or break a successful project. It can make it by specifying necessary resources and boundaries that will in turn ensure success; it can break it by reducing team focus, effectiveness and motivation.

Project Charter Format

Charters vary in format but must include some specific content:

- The objective of the project
- Priorities that are set
- A statement of expected deliverables
- A description of the expected users or customers
- A benefit or return on investment analysis
- Budgets and costs estimates
- Targeted milestones and deadlines
- Assumptions and constraints that have been applied
- Project leader and staffing information
- Quality controls
The following is taken from www.tenders.vic.gov.au and is an example of a Project Charter format.

Tourism Victoria Filming Project
Expression of Interest
Reference Number TV0025

OBJECTIVE

To undertake aerial filming of various Victorian locations.

INFORMATION FOR PROSPECTIVE SUPPLIERS

1. OVERVIEW

Tourism Victoria (TV) invites proposals for the undertaking of a filming project to collect wild reel footage that will be used to promote the State of Victoria as a desirable travel destination.

Submissions are being sought from production companies who can capture creative imagery of Victoria that can then be used in promotional vignettes and provided to media broadcasters.

With the upcoming Melbourne 2006 Commonwealth Games (M2006), TV has identified the provision of destination footage for use in event broadcast as a significant opportunity to generate awareness of Melbourne and Victoria. Feedback from broadcasters and events consistently points to the need for high quality, evocative imagery to maximise opportunities. The current footage used by TV is visually dated and does not meet the technical needs of broadcast.

The aim of this project is to create footage impressive enough to entice event broadcasters (those appointed by M2006 and broadcasters for other major events such as the Australian Open and the Australian Grand Prix) to use the destination footage in their programming. The subsequent aim is to evoke strong interest from consumers in the destination, a desire to learn more and to increase awareness of the tourism attractions and products available in Melbourne and Victoria.

Emphasis should be placed upon filming Melbourne in a spectacular and different perspective. Tourism Victoria is NOT looking for a standard aerial shoot taken from high altitude looking down.
2. DETAILS

TV has identified FOUR locations to be filmed to update its current film library. TV requires AT LEAST 10 minutes of wild reel footage including AT LEAST 1 - 2 minutes of spectacular footage of EACH location (please note that post production will be conducted separately from this tender).

The footage must contain sweeping aerial shots that convey an impressive “bird’s eye” perspective of ALL locations.

- **Yarra River (from MCG to Docklands)**
  - Must include footage of MCG, Southbank, Crown Casino, the Melbourne Exhibition and Convention Centre, Docklands and Telstra Dome
  - Day time and dusk footage required
  - Dusk footage must include Crown Casino’s fireballs and should also ensure that the lights of the Melbourne Aquarium and the Rialto are on and filmed during this time. This should be arranged directly with the attractions.

- **Federation Square**
  - Both internal and external footage required
  - Talent (in the form of general ‘extras’) required in order convey ‘lively feel’ Tourism Victoria may be able to assist in providing some extras
  - Initial thoughts are for sweeping/panning shots of atrium, cobbled forecourt and open square area, potentially achieved by mounting a camera on wire or tracks (similar to AFL broadcasts but executed in a more stylish manner)

- **Royal Exhibition Building and Melbourne Museum**
  - External footage only
  - Footage should reflect contrast between the modern Museum building and the World Heritage Listed Royal Exhibition Buildings
  - May require the use of cherry pickers or helicopter
  - May include vision of Carlton Gardens with footage from a low level camera moving towards the Fountain on Victoria St along the tree lined path

- **TarraWarra, Yarra Valley**
Both internal and external footage required

- Aerial footage will be from a camera moving up the valley towards the Gallery and Restaurant (see cover of current Wine Regions of Victoria brochure for an example)
- Internal footage will be of camera travelling through the Gallery towards the large window of the Valley

Limited talent required

- Possibility of creating a seamless flow from external footage to internal footage
- Copyright issues will exist in regard to the artwork contained inside the Museum

**Other Requirements of filming:**

- Must be filmed on 16: 9 for 4:3 safe on High Definition Video
- The appointed production company will be responsible for obtaining ALL permits required for the shoot
- All relevant clearances including those for talent and copyright must be obtained
- Tourism Victoria MUST have all rights clearances and full copyright for ALL footage taken and have full ownership of ALL footage taken

**Budget**

- The budget for the filming project will be approximately $100,000 - $130,000
- Please note: Tender process will be cost competitive based on approaches and execution of shoot.

**3. DETAILED REQUIREMENTS FOR EXPRESSIONS OF INTEREST**

This section outlines the detail required by respondents to the call for expressions of interest. All parts of the sections must be responded to, and partial responses will not be accepted.
The following information is required for the registration of interest. Please note Expression of Interest document must be no longer than 25 pages.

**Profile of the company including:**

- Outline of the company’s structure and business strategy
- Details of Melbourne/Victorian operations/staffing
- Details of companies previous experience with aerial filming

**Project Details:**

- Written explanation of what approaches will be applied to the shoot, with visual references. This must include examples of what styles would be applied to the shoot.
- Fully itemised project budget. Please note your budget must include and cover the following costs:
  - High Definition Video, 16:9 for 4:3 safe
  - Insurance: **Must provide proof of ALL relevant insurance, including Public Liability Insurance**
  - Talent (Extra’s)
  - Equipment hire
  - Weather contingencies: Cost and minimum notification time
  - Permits
  - All other project costs
- Detailed project timeline

**Profile of the key personnel to work on the project:**

- Director of photography
- Producer
- Director
- Camera Operator(s)
Work experience:

- Company showreel featuring work from similar projects, no more than one hour of footage to be supplied in DVD format.

Clients:

- List of existing clients to be provided including the names and contact details of two referees

4. PERIOD OF SERVICE

The period of service is expected to be from 1 November 2005 until 11 December 2005.

5. REMUNERATION

Expressions of interest must contain indicative costs based on the requirements above.

6. ENQUIRIES

Please note that any clarification of the brief must be sought in writing from:

Mr Tony Donohoe
Manager, Contract Services
Tourism Victoria
GPO Box 2219T
MELBOURNE VIC 3001

Alternatively emails can be forwarded directly to tony.donohoe@tourism.vic.gov.au

7. LODGEMENT OF EXPRESSIONS OF INTEREST

Agencies wishing to provide these services to Tourism Victoria must return an Expression of Interest by 2.00 pm, Tuesday 20 September.

To:
Tender Box
Department of Innovation, Industry and Regional Development
9th Floor
55 Collins Street
MELBOURNE 3000

All Expressions of Interest should be clearly marked “TV0025 –Tourism Victoria Filming Project”

Companies intending to submit an Expression of Interest should acquaint themselves with Tourism Victoria’s “Conditions of Tendering”. A copy of which is attached to this document (Part A).
Project Definition Phase

Project Definition Workshop

A project definition describes exactly the common understanding, its extent and nature, among the key people involved in a project. The definition provides a foundation upon which successful projects are built. In many cases a definition serves as a sort of contract between the parties participating in a project, clearly stating expectations for project time, resources, and results.

Who develops a Project Definition?
A project manager drafts a project definition, but its development is a team effort. The definition is an agreement among key participants in a project, and must have input from all of those participants.

What kinds of projects need a Project definition?
All projects need to go through the definition process. Lack of a definition leads to unclear and ambiguous goals, confusion, misunderstanding, and poor communication. Failure to formalise and document scope, goals, and expectations puts a project at risk before it even begins.

Getting Started
To get started with the project definition process, the project manager needs to understand and be able to communicate the following information to sponsors, customers, management and prospective team members. (Much of this information will be derived from the Project Manager's interaction with these same people.)

- Problem Statement - Describe the problem to be addressed and resolved.
- Project Name - Provide a concise and descriptive "Official Project Name."
- Project Description - Provide a brief narrative including project context and background.
- Project Objectives - Describe what will be achieved and what will be delivered to the customer.
- Scope - Provide a first draft of what will and will not be included in the project.
- Customer - Delineate specifically who is the customer.

Compiling this information creates the cornerstone of the project definition. Various characteristics and details unique to each project will determine the level of detail and effort required in the Project Definition document. The definition usually evolves as the project moves through its life cycle.
Project Purpose

This is an overall statement of the intended objectives of the Project. It can normally be written in a few sentences and relates further to the Project Objectives below.

Project Objectives

10 “The initial project objective should be based on project initiation data. A project objective is a simple, short statement describing the project. It is generally composed by the project leader, often with inputs from the project team, but can also be written by the project sponsor, a customer, or other project stakeholders.

A project objective defines the deliverable(s) (scope), the deadline (schedule), and the overall investment (cost). A good objective is about twenty-five words in length and captures project essential concisely. It should avoid technical jargon, acronyms, idioms, or other language that can lead to misunderstandings. Describe deliverables using ordinary language that all project stakeholders will understand. Translate the information into languages necessary, and validate the translations before distribution. For timing, include the day, month (by name, not number), and year. Specify resources in clear monetary terms or in unambiguous effort.

An example:””I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to earth .......$531 million in this fiscal year.” (President John F Kennedy, 1961)

Deliverables Breakdown Structure

11 A deliverable is tangible as well as verifiable. To be verifiable, the deliverable must meet predetermined standards for its completion, such as design specifications for a product (like a new car) or a checklist of steps that is completed as part of a service (like maintenance of factory machinery). “
Deliverables have stakeholders
There are two kinds of stakeholders:

- Individuals and organizations that are actively involved in the project or whose interests may be affected by the project.
- Those who receive the finished product or service, such as a company’s customers (external), and
- Stakeholders such as team members who depend on the deliverable to do their own work (internal).

Project Scope

Defining scope is a team process. Identifying project work completely requires the perspective of all contributors- from other functions, from support organisations, and from people who may only be involved later in the project. Involve the core project team and other stakeholders who can help understanding the project.

Plan the logistics. For large projects, scope definition may take several days. Allocate at least two hours for even modest projects, and seek a quiet place away from your normal work area with ample room and open wall space. Provide necessary supplies, such as thick dark pens, sticky notes, and tape or pins to post large sheets of paper on the walls.

Assemble project documentation from project initiation and scope planning, such as the project objective, project priorities, project charter and project vision. Reviews the users needs assessment, and define the project acceptance criteria. Also provide work breakdowns developed for earlier similar projects, and any relevant WBS templates.

Before beginning to decompose the work with your team, break larger programs into smaller projects that can be assigned to teams of at most twelve people.”

Project Strategy

Work Breakdown Structure
Define a Work Breakdown Structure (WBS) to specify the various work activities to be performed in the IM/IT project, and to depict the relationships among these work activities.

Decompose the work activities to a level that exposes all project risk factors, and that allows accurate estimation of resource requirements and schedule duration for each work activity.

Specify the following factors for each work activity:

- Necessary resources,
- Estimated duration,
- Products or deliverables of the activity,
- Acceptance criteria for the work activity products, and
- Predecessor and successor work activities.

The level of decomposition internally within the WBS may vary depending on the quality of the requirements, familiarity of the work, applicable level of technology, etc.

**Schedule Allocation**
- Specify the scheduling relationships among the project work activities in a manner that depicts the time-sequencing constraints and illustrates opportunities for concurrent work activities.
- Identify the critical path in the schedule.
- Indicate any constraints on the scheduling of particular work activities that are caused by external factors.
- Identify appropriate schedule milestones to assess the scope and quality of project work products and of project achievement status.
- Techniques for depicting schedule relationships may include milestone charts, activity lists, activity Gantt charts, activity networks, critical path networks and PERT charts.

**Resource Allocation**
Provide a detailed itemization of the resources allocated to each major work activity in the project WBS.
Specify the numbers and required skill levels of personnel for each work activity. Specify, as appropriate, the allocation of the following resources:
- Personnel (by skill level),
- Computing resources
- Software tools
- Special testing and simulation facilities, and
- Administrative support.

Use a separate line item for each type of resource for each work activity.

**Budget Allocation**
Provide a detailed breakdown of the necessary resource budgets for each of the major work activities in the WBS.
Specify the estimated cost for activity personnel, and include as appropriate, the costs for the following items:
- Travel,
- Meetings,
- Computing resources,
• Software tools,
• Special testing and simulation facilities, and
• Administrative support.

Use a separate line item for each type of resource in each activity budget.

Requirements Management

• Specify the process for measuring, reporting and controlling changes to the project requirements.
• Specify the processes to be used in assessing the impact of requirements changes on product scope and quality, and the impacts of requirements changes on project schedule, budget, resources and risk factors.
• In the configuration management processes, specify change control procedures and the formation and use of a change control board.
• In the processes for requirements management, include traceability, prototyping and modelling, impact analysis and reviews.

Schedule Control

• Specify the schedule control activities by identifying the processes to be used for the following purposes:
  o To measure the progress of work completed at the major and minor project milestones,
  o To compare actual progress to planned progress, and
  o To implement corrective action when actual progress does not conform to planned progress.
• Specify the methods and tools that will be used to measure and control schedule progress.
• Identify the objective criteria that will be used to measure the scope and quality of work completed at each milestone, and hence to assess the achievement of each schedule milestone.

Budget Control

• Specify the budget control activities by identifying the processes to be used for the following purposes:
  o To measure the cost of work completed,
  o To compare the actual cost to the planned and budgeted costs, and
  o To implement corrective action when the actual cost does not conform to the budgeted cost.
• Specify when cost reporting will be done in the project schedule.
• Specify the methods and tools that will be used to track the project cost.
• Identify the schedule milestones and objective indicators that will be used to assess the scope and quality of the work completed at those milestones.
Specify the use of a mechanism such as earned value tracking to report the budget and schedule plan, schedule progress, and the cost of work completed.

**Quality Control**
- Specify the processes to be used to measure and control the quality of the work and the resulting work products.
- Specify the use of quality control processes such as quality assurance of conformance to work processes, verification and validation, joint reviews, audits and process assessment.

**Reporting**
- Specify the reporting mechanisms, report formats and information flows to be used in communicating the status of requirements, schedule, budget, quality, and other desired or required status metrics within the project and to entities external to the project.
- Specify the methods, tools and techniques of communication.
- Specify a frequency and detail of communications related to project management and metrics measurement that is consistent with the project scope, criticality, risk and visibility.

**Project Metrics**
- Specify the methods, tools, and techniques to be used in collecting and retaining project metrics.
- Specify the following metrics process information:
  - Identification of the metrics to be collected,
  - Frequency of collection, and
  - Processes for validating, analysing, and reporting the metrics.

**Project Responsibilities**
- Identify and state the nature of each major work activity and supporting process.
- Identify the organizational units that are responsible for those processes and activities.
- Consider using a matrix of work activities and supporting processes vs. organizational units to depict project roles and responsibilities.
Preliminary Communication Plans

13 “Review the project infrastructure decisions, and determine how all formal communications will be done. Define the internal reporting requirement for the project team and external communication for the sponsor, stakeholders, and others. Assign responsibility for all project communications, and schedule routine communications to support project plan execution.

If the project involves confidential or proprietary information, document how it will be handled.

Determine how project communications will be done. Plan to take advantage of all information distribution and communication methods available. Throughout the project use all types of communications: formal and informal, written and verbal.

Develop a plan for archiving project data and communications in a project management information system.”

Risk Analysis

You should specify the risk management plan for identifying, analysing, and prioritising project risk factors.

Also specify plans for assessing initial risk factors and for the ongoing identification, assessment, and mitigation of risk factors throughout the life cycle of the project.

Describe the following:

- Procedures for contingency planning,
- Procedures for tracking the various risk factors,
- Procedures for evaluating changes in the levels of the risk factors and responding to changes in the levels of the risk factors,
- Risk management work activities,
- Procedures and schedules for performing risk management work activities,
- Risk documentation and reporting requirements,
- Organisations and personnel responsible for performing specific risk management activities, and
- Procedures for communicating risks and risk status among the various customer, project and subcontractor organisations.

Identify and describe the applicable impact of any of the following risk factors:

- Risks in the customer-project relationship,
- Contractual risks,
- Technological risks,
- Risks caused by the size and complexity of the product,
- Risks in the development and target environments,
- Risks in personnel acquisition, skill levels and retention
- Risks to schedule and budget, and
- Risks in achieving customer acceptance of the deliverables.

The impact of each risk on the project is analysed and a mitigation strategy is developed to minimize the potential negative impact of risks on the successful completion of the project.
<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Risk</th>
<th>Impact on Project</th>
<th>Mitigation Strategy</th>
<th>Criticality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business</strong></td>
<td>Key team members not available for the meetings.</td>
<td>Project may be delayed. Decisions may not be based on expert knowledge.</td>
<td>Advanced scheduling of specific times for team meetings. Identify team members on specific roles and responsibilities. Advanced notice to the team of unavailability. Multi-task project plan so minimal idle time is experienced if a delay is realized.</td>
<td>High</td>
</tr>
</tbody>
</table>
Initial Cost Estimates

When you begin to assemble the cost estimates, it's helpful to prepare a worksheet that includes a list of all personnel and non-personnel expenses related to the operation of the project. Consider any new costs that will be incurred if the project is funded (i.e. temporary employees or consultants), as well as any ongoing expenses for items that will be allocated to the project. Non-personnel costs might include items such as travel, equipment, office supplies and postage.

Personnel items might include salaries and benefits. Full time employees who will be assigned to work on the project should be included in the budget at the appropriate percentage of time. For example, if the administrative assistant plans to spend 20 hours of her 40 hour work week involved with a project that is expected to last one year, you may budget for 50% of her total salary for the twelve-month period.

Project Completion Phase

Identify the plans necessary to ensure orderly closeout of the project.

Specify the following:

- A staff reassignment plan
- A process for archiving project materials,
- A process for capturing project metrics in the business projects database,
- A process for post-mortem debriefings of project personnel, and
- A plan for preparation of a final report to include lessons learned and an analysis of project objectives achieved.
Quality Assurance

It is important to specify or reference the quality assurance plan for the project, containing the information identified in the following lines.

Specify the plans for assuring that the project fulfils its commitments as specified in the Project Management Plan, supporting plans and any standards, procedures, or guidelines to which the process or the product must adhere.

As applicable, specify the quality assurance procedures to be used, such as analysis, inspection, review, audit, and assessment.

Indicate the relationship among the quality assurance, verification and validation, review, audit, configuration management, system engineering, and assessment processes.

Reviews and Audits

- Specify the schedule, resources, and processes, and procedures to be used in conducting project reviews and audits.
- Specify the plans for joint customer-project reviews, management progress reviews, developer peer reviews, quality assurance audits, and customer-conducted reviews and audits.
- List the external agencies that approve or regulate any project deliverable.

Problem Resolution

- Specify the resources, methods, tools, techniques and procedures to be used in reporting, analysing, prioritising and processing problem reports generated during the project.
- Indicate the roles of development, configuration management, the change control board, and verification and validation in problem resolution work activities.
- Provide for separate tracking of effort expended on problem reporting, analysis and resolution, so that rework can be tracked and process improvement accomplished.

Process Improvement

- Specify the plans for periodically assessing the project, for determining areas for improvement, and for implementing the improvement plans.
- Ensure that the process improvement plan is closely related to the problem resolution plan.
- Include in the improvement plan, a process to identify the project processes that can be improved without serious disruption to an ongoing project, and to identify the project processes that can best be improved by process improvement initiatives at the organisational level.
Recommended Reading

**Project Management – A Competency Based Approach**
Stephen Hartley
Pearson Education
ISBN 174103051X

**The Project Management Tool Kit,**
100 Tips and Techniques for getting the job done right:
Tom Kendrick, American Management Association,
ISBN 0-8144-0810-9,
Endnotes

1 http://en.wikipedia.org/wiki/Stakeholder


4 http://www.hyperthot.com/pm_meth1.htm

5 http://en.wikipedia.org/wiki/Project_accounting

6 http://en.wikipedia.org/wiki/Risk_management


9 http://www.tenders.vic.gov.au


