

Risk Management



Doing The Assignment

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Risk Management

Doing The Assignment Step 1:

- * Choose a project that you know you can obtain information about!
- * Use your report table of contents as a template for actions by each team member

1. Introduction and Purpose
2. Executive summary (*prepare this last*)
3. Context of Analysis (organisation, project, stage, key objectives)
4. Methodology used & key stakeholders involved
5. Identified risks: description and existing controls
6. Risk assessment: likelihood & consequence
7. Risk treatments and proposed implementation
8. Findings & recommendations
9. References

Your report can contain narrative, diagrams, charts, tables and photos.

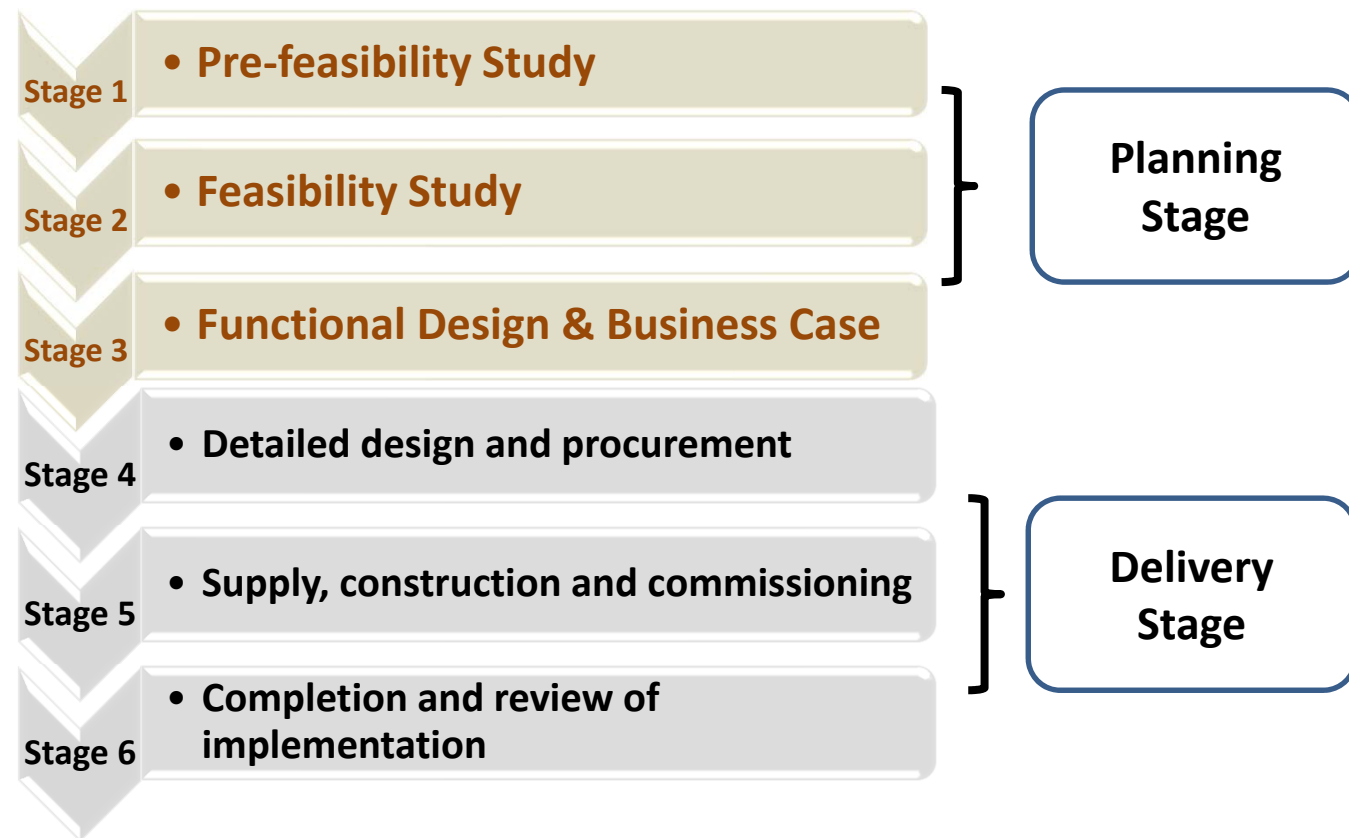
Risk Management Context

CONTEXT

- Describe the business/ project/stage you have chosen
 - Business structure and objectives
 - Project structure and objectives
 - What stage of the project
 - Who in the organisation are you assessing the risks for.

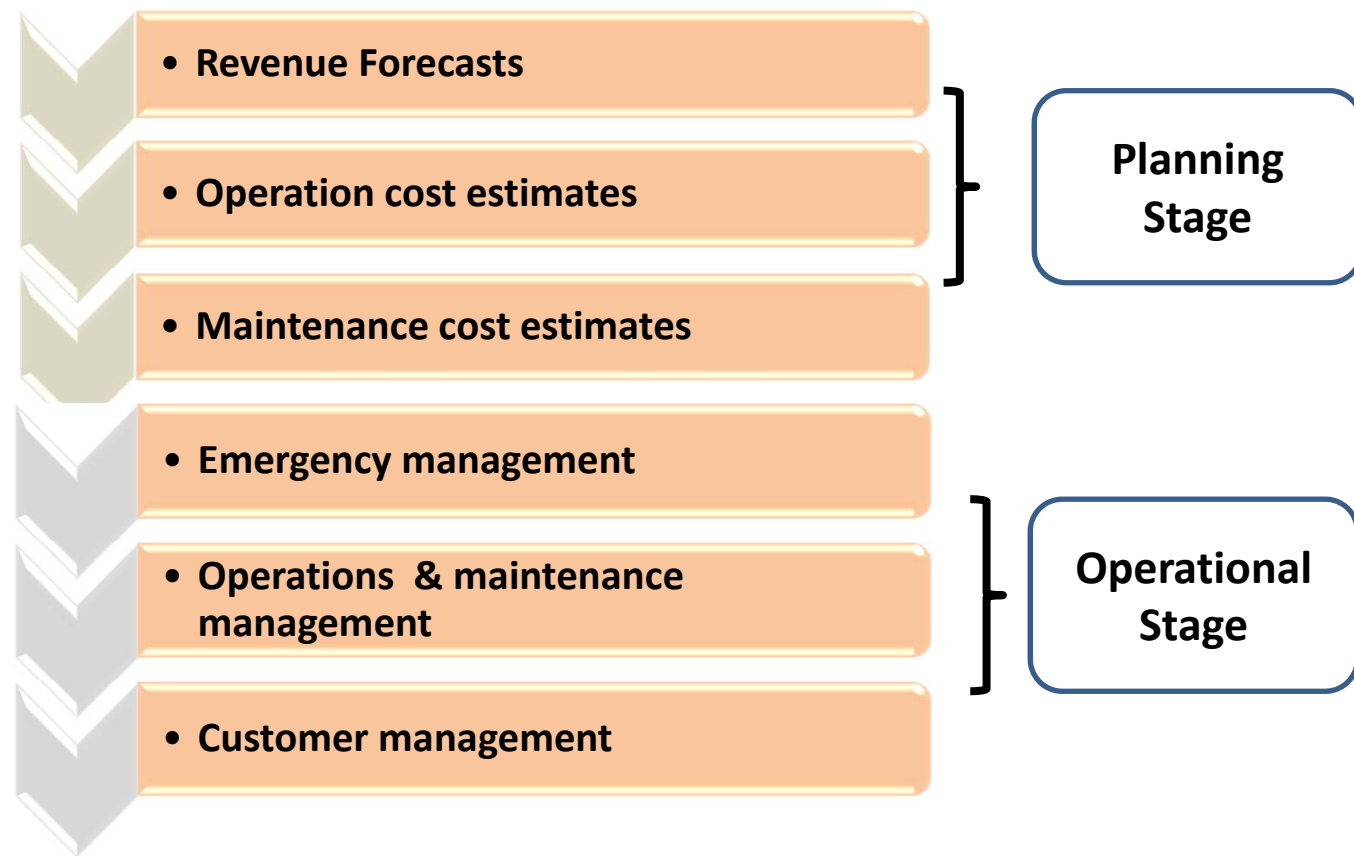
Risk Management Context

Capital works project & what stage ?



Risk Management Context

Ongoing business at planning or operational stage ?



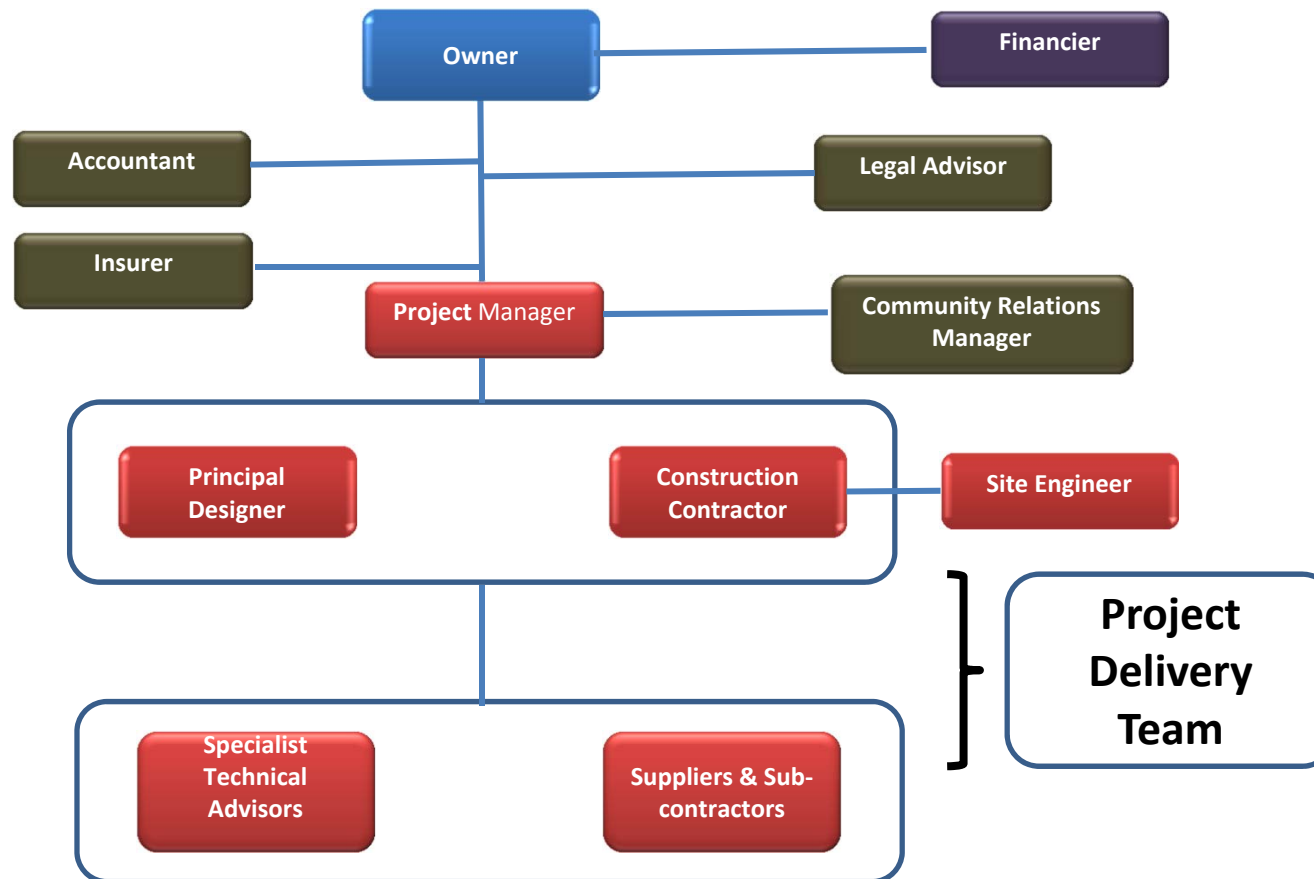
Risk Management Context

Whose risks am I managing?



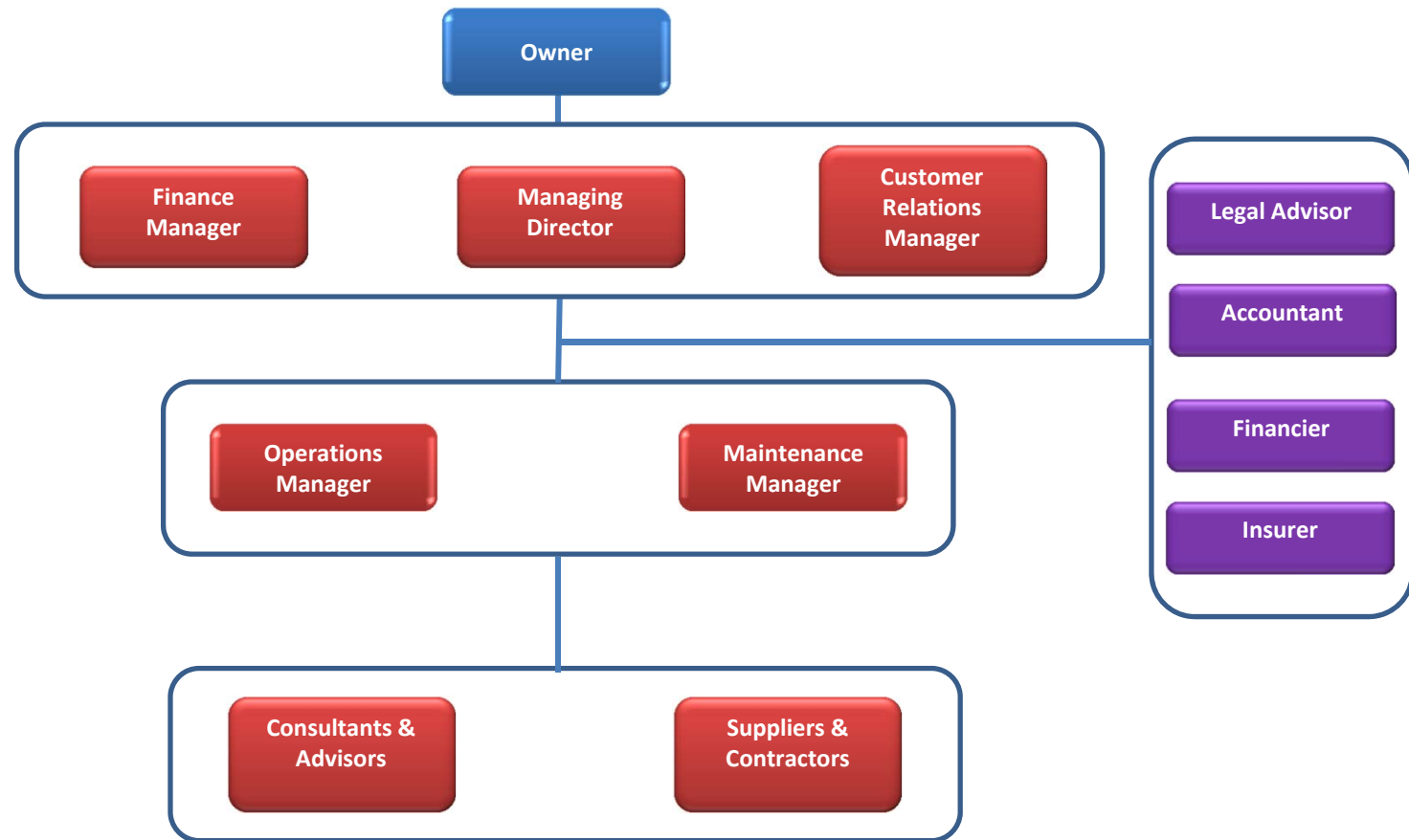
Risk Management Context

Whose risks are you managing in the delivery of capital works ?



Risk Management Context

Whose risks are you managing in the operation stage of projects?



Risk Analysis Process

Obtain corporate information to understand corporate risk profile and management profile in context and nominate whose risks are being considered



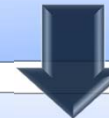
Using a workshop methodology, identify hazards & associated risks and rate their likelihood & consequence



Using a workshop, analyse existing controls, develop new controls & assess their effectiveness by reviewing the likelihood & consequence rating

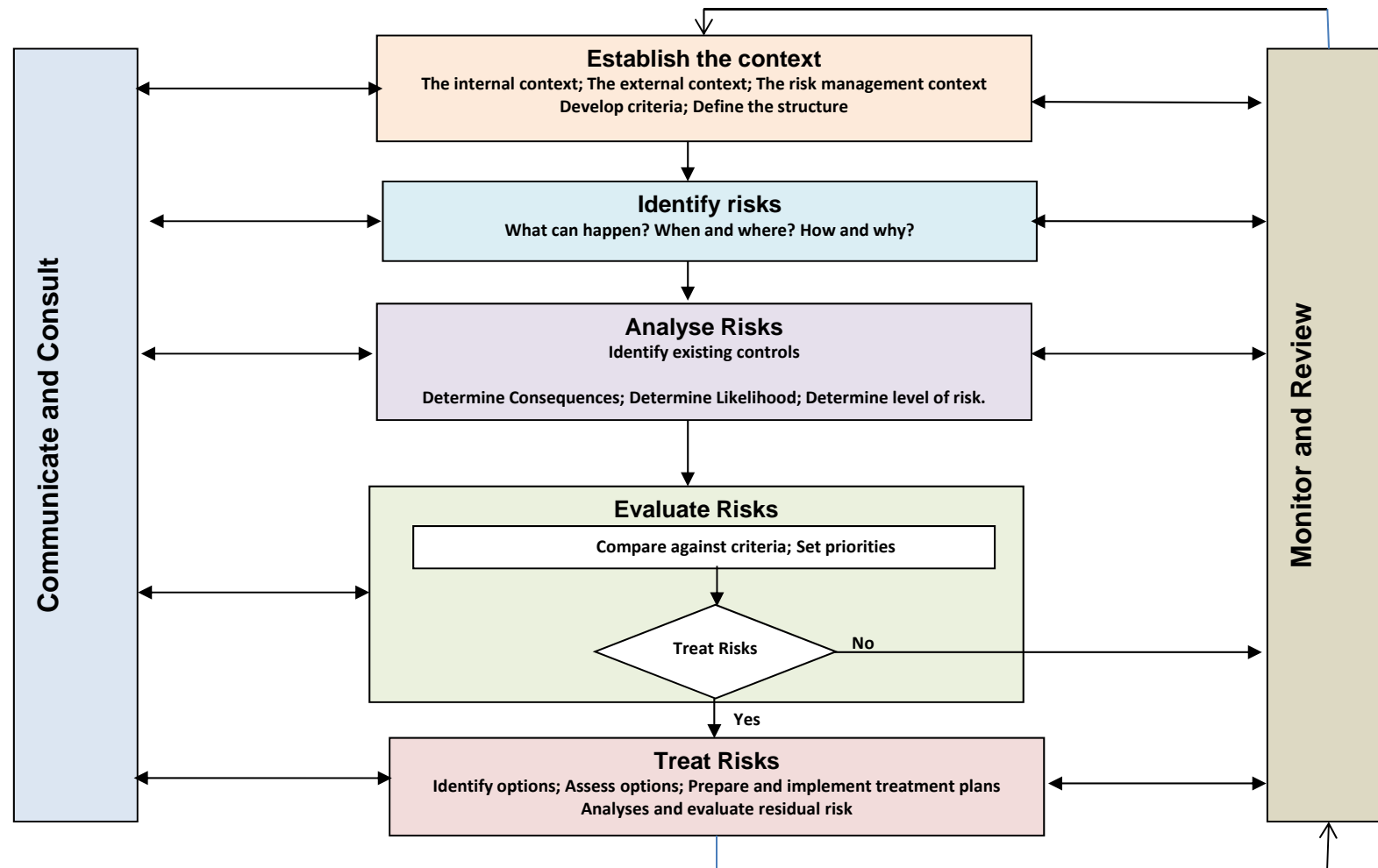


Based on the residual risk rating, develop an action plan for ongoing management of the residual risk



Use a risk register to record the process and to track the risks during the ongoing implementation of the project(s)

Typical Risk Analysis Process



Risk Analysis Process

*Understand the corporate and project risk context
as your starting point for the qualitative risk analysis.*

- Many organisations have a risk management policy, identified priority risk categories and corresponding risk management strategies defined in a corporate framework document;
- Many organisations have a risk management manual and refer to the Australian Standard as the guide. (AS/NZS ISO31000:2009, Risk Management – Principles & Guidelines);
- The overarching risk profile and the key business risks to the organisation will be described in this documentation;



Risk Analysis Process

Identify the Hazards and Risks?

The risk identification process can be simply broken down to answering the following questions:

- *What can happen that could affect the project or activity that I am involved in?*
- *When and where could it occur?*
- *How and why could it occur?*

Usually, this task is best facilitated in a workshop environment involving a range of diverse participants who can offer differing perspectives.



Risk Analysis Process

Determine the Likelihood Rating of Each Risk

Purpose:

The analysis of risks requires an objective assessment of their frequency of occurring, based on historical events and some assessment of what has changed and may occur into the future.

The following table is used to rate the likelihood of different risks occurring for a civil asset with say 100 year effective life:

#	Rating	Description	Probability	Frequency – Civil Asset
5	Almost Certain	Risk will occur within the period	0.99	1 per year
4	Likely	Risk likely to occur within the period	0.98 - 0.50	1 in 1 to 4 years
3	Possible	Risk may occur within the period	0.49 - 0.20	1 in 5 to 19 years
2	Unlikely	Risk not likely to occur within the period	0.19 - 0.05	1 in 20 to 49 years
1	Rare	Risk will only occur in exceptional circumstances	0.04 - 0.02	1 in 50 years or greater

Note: A more detailed quantitative analysis techniques can be used to determine the likelihood more accurately (see Lecture 2)

Risk Analysis Process

Determine the Likelihood Rating of Each Risk

The frequency estimate will vary depending on the period under review for the given project & situation.

The 'period under review' is dependant on what is the context of the risk analysis:

Context	Period Under Review
An asset	Life of the asset class
A project construction cycle	Life of the project
A seasonal hazard	Say 4 months
A peak operation period	Varies: Say 8 hours
An emergency situation	Varies: Allow from 1hr to 1 week.

Risk Analysis Process

Determine the Consequence Rating

- The consequence of a risk actually occurring can be quantified in commercial terms (\$), environmental terms(such as contamination of a wetlands), or social terms (loss of amenity).
- Monetising all consequences is useful for combining a total impact. However, some consequences are difficult to monetise. (such as loss of a species)
- A qualitative assessment scale for analysis of consequences is shown below

	Consequence	Description
1	Insignificant	Almost no impact on the project
2	Minor	Small impact on the project that can easily be fixed
3	Moderate	Medium impact on the project that can be fixed with some effort
4	Major	Major impact on the project that will be difficult to fix
5	Catastrophic	Disastrous impact on the project that will be almost impossible to fix

Risk Analysis Process

Determine the Risk Priority or Risk Rating

The likelihood and consequences of a risk occurring are used to determine the risk rating of either low, medium, high or extreme. The matrix below can be used to provide a visual method of categorising risks based on their risk rating.

To determine the risk rating, the Likelihood rating is added (+) to the Consequence rating. The addition of the two numbers produces a continuum number that is a number from 2 through to 10.

Risk Rating Matrix

	Likelihood				
Consequence	1	2	3	4	5
5	Medium	Medium	High	Extreme	Extreme
4	Medium	Medium	Medium	High	Extreme
3	Low	Medium	Medium	Medium	High
2	Low	Low	Medium	Medium	Medium
1	Low	Low	Low	Medium	Medium

Risk Analysis Process

The Hierarchy of Risk Control Measures:

When reviewing the effectiveness of the current risk control measures , further measures can be introduced if necessary to reduce the frequency or consequences.

The following shows a hierarchy of control measures in order of effectiveness.

Eliminate or avoid the hazard or issue that is creating the risk	✓✓✓✓✓
Control the risk to an acceptable level & manage	✓✓✓✓
Transfer the risk to another party who can better manage the risk	✓✓✓
Accept the risk and manage it closely	✓

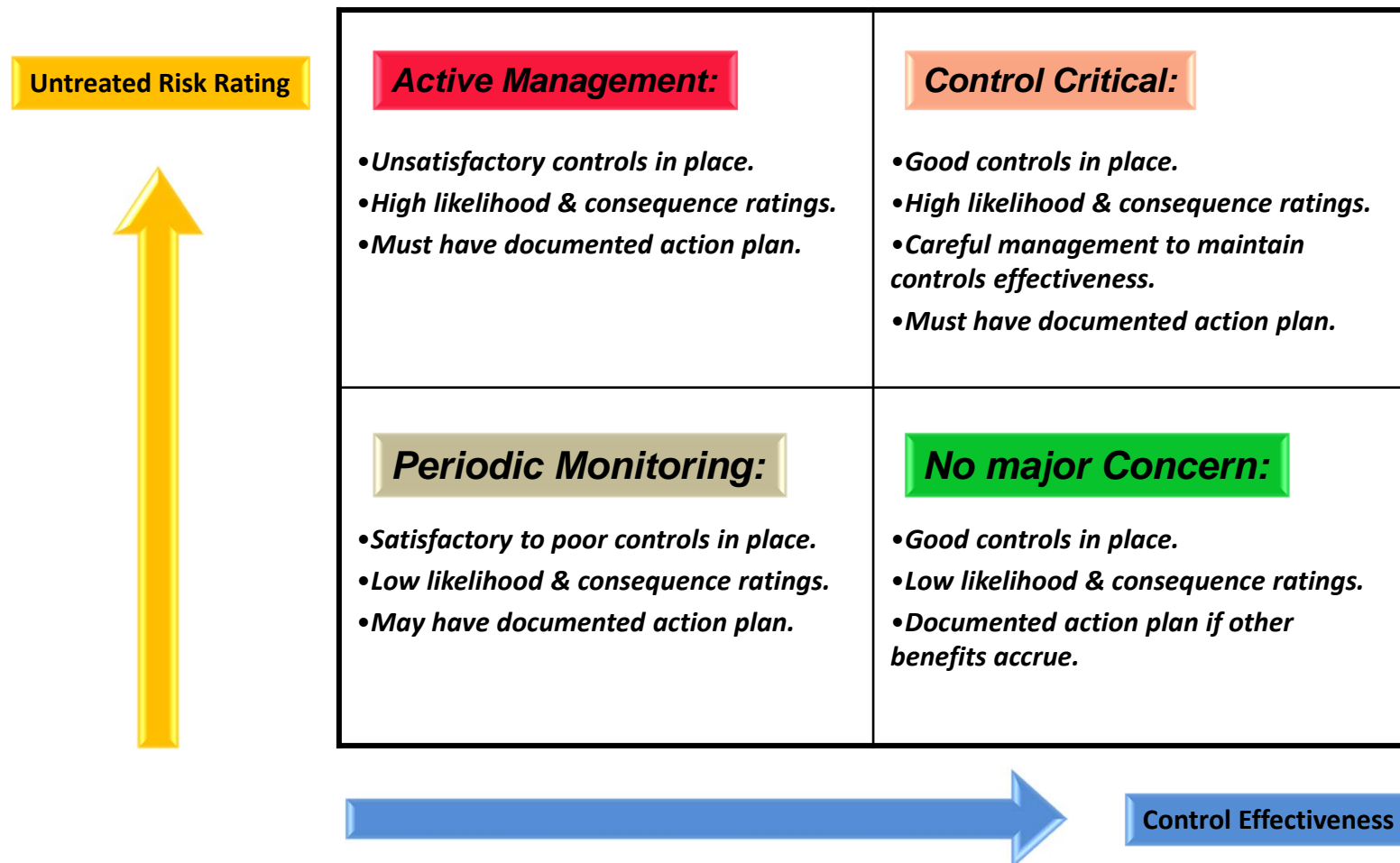
Risk Analysis Process

Effectiveness of Risk Control Measures:

Level	Descriptor	Guidance for Risk Control Rating
1	Excellent	The system is effective in mitigating the risk. Systems and processes exist to manage the risk and management accountability is assigned. The systems and processes are well documented and understood by staff. Regular monitoring and review indicates high compliance with the process.
2	Good	Systems and processes exist which manage the risk. Some improvement opportunities have been identified but not yet actioned. Formal documentation exists for key systems and processes in place to manage the risk that is reasonably understood by staff.
3	Fair	Systems and processes exist which partially mitigates the risk. Some formal documentation exists and staff have a basic understanding of systems and processes in place to manage the risk.
4	Poor	The system and process for managing the risk has been subject to major change or is in the process of being implemented and its effectiveness cannot be confirmed. Some informal documentation exists, however staff are not aware or do not understand systems or processes to manage the risk.
5	Unsatisfactory	No system or process exists to manage the risk.

Risk Analysis Process

Final Assessment of Residual Risks:



Risk Management Process

Documenting the Risk Analysis Process Using a Risk Register

The business Risk Register is a common tool in corporate risk management Systems:

- It can be used to filter risks, track progress, document action plans;
- It is useful for risk owners, auditors, managers, directors;
- It can be tailored to a reader's particular need for detail;
- Each business group within an organisation can have its own risk register, linked upwards to corporate policy level risks;
- The "top 10" risks can be highlighted in the Register for ongoing management.
- Control measures can be classified as "Proactive" (affect the likelihood of an event occurring), or "Reactive" (affect the level or duration of consequences) and monitoring can be tailored for each risk.
- **The Risk Register is supported by a report with workshop notes, analysis files, photos, diagrams & material that validates the summary in the Risk Register.**

Typical Risk Register **Example**

Business Risk No	Date Risk Updated	Context / Hazard	Business Risk	Team	Responsible Name	Corporate Risks	Control Measure	Control Effectiveness	Likelihood (A)	Consequences (B)			Total Consequence (B)	Risk Rating (A+B)	Risk Rating Matrix Classification	Risk Management Classification
										Social	Environmental	Financial				
A001	27/3/14	Manual Handling	Back Injury	MelbUni	Student A	Risk of inadequate health, safety and security of people, property and environment	<ul style="list-style-type: none"> - Manual handling training - Standard operating Procedures - Task Risk Assessments 	3	?	?	?	?	?	?	?	?

- Control Critical or
- Active Management or
- Periodic Monitoring or
- No major concern

Risk Analysis Conclusion

**I wish I had done
a risk analysis
before I started
doing this
assignment !!!**

