

**Risk Management MN220:  
Seminar 2& 3: Risk  
Principles & techniques**

**Lecturer: Arjun Murthy**



# SHERIDAN COLLEGE

PERTH | WESTERN AUSTRALIA

# Lecture 2

## Risk identification and assessment techniques and the risk register

- Introduction
- IEC/ISO 31010:2009 Risk management – Risk assessment techniques
- The use of appropriate tools in different contexts
- The risk register







# IEC/ISO 31000:2009

## Risk management – Risk assessment techniques

- 31 techniques for identifying and assessing risks
- Use of qualitative and quantitative techniques
- Supports AS/NZS ISO 31000 Standard
- Provides guidance on the most appropriate tools to use

# Risk assessment tools

- Methods of identifying risks
- Methods of assessing risks
- Methods of analysing risks against predetermined criteria (acceptability/ tolerability)

# Risk Statements

- Not statements of fact
- Address uncertainty
- What can or may go wrong and how?



# Describing a risk event

- Needs to address **uncertainty**
- Not a statement of fact
- A statement generally containing a verb describing a less than desirable condition:
  - “Fire in the building leading to....**which may result in** .....
  - “Poor maintenance .....**leading to possible** .....
  - “Higher operating costs.....**which could result in**.....”
  - “Higher/lower/larger/greater....**which could impact on**.....”

# Risk Language

As a result of an *existing condition*,

an *uncertain event* may occur,

which would lead to an *effect on objectives*

# Nature of risk



## OPPORTUNITY

- New products or services
- New clients or bigger contracts
- New technology or processes



## HAZARD

- Hazards in workplace
- Use of hazardous materials/processes
- OHS



## UNCERTAINTY

- Fire, drought, flood
- Burglary, vandalism, theft
- Political, economic, financial

# Type of risk



## **STRATEGIC**

- Impact on strategic imperatives
- Impact on access to markets, new product or business development



## **OPERATIONAL**

- Impact on day to day project operations
- OHS, financial, environmental

# Recording a risk

- Form or table containing the information
- AS/NZS HB 436:2004 Risk Management Guidelines Tables 10.1 and 10.2
- Customise the recording method
- Use paper based records for interviews (then transfer to electronic storage) or electronic documents for workshops



## RISK ASSESSMENT

### Risk Identification Form

Date: \_\_\_\_\_ Reference: \_\_\_\_\_

Business/  
Risk Area: \_\_\_\_\_ Person  
Responsible: \_\_\_\_\_

Risk Name: \_\_\_\_\_

Risk Description: (What can happen, where and when, impacting on the achievement of objectives?)

Contributing Factors (Causes):	Outcomes (Consequences):

Controls:

Recording a risk

# Risk identification & assessment techniques

- Qualitative
- Semi-quantitative
- Quantitative
- Use different techniques for different applications and contexts

# Consequence/ likelihood

- Tables in Australian Standard HB436:2004  
Risk management guidelines:
  - ✓ Consequence
  - ✓ Likelihood
  - ✓ Risk levels
  - ✓ Risk matrix

# Consequence/probability matrix

- A model which is developed from the likelihood and consequence parameters
- The allocation of risk levels based on a technique or methodology (i.e. IEC/ISO 31010:2009)
- Commonly used in business risk analysis

# Consequence/ likelihood

- Consequence

- ✓ Severe/ Catastrophic
- ✓ Major
- ✓ Moderate
- ✓ Minor
- ✓ Insignificant

- Likelihood

- ✓ Almost certain
- ✓ Likely
- ✓ Possible
- ✓ Unlikely
- ✓ Rare

# Risk matrix & rating

- $1 \times 7 = 7$
- $2 \times 9 = 18$
- $3 \times 11 = 33$
- $4 \times 13 = 52$
- $5 \times 16 = 80$

# Risk matrix – example<sup>1</sup>

LIKELIHOOD	CONSEQUENCES				
	7 Insignificant	9 Minor	11 Moderate	13 Major	16 Severe
5 Almost Certain:	35	45	55	65	80
4 Likely:	28	36	44	52	64
3 Possible:	21	27	33	39	48
2 Unlikely:	14	18	22	26	32
1 Rare	7	9	11	13	16

<sup>1</sup> Adapted from IEC/ISO 31010:2009 Risk management – Risk assessment techniques

## Risk scores

- Very High 64 - 80
- High 16 - 55
- Medium 11 - 35
- Low 7 - 21



## Risk matrix – example 2

CONSEQUENCES	Level of Risk				
5 Catastrophic	H	H	E	E	E
4 Major	M	H	H	E	E
3 Moderate	L	M	H	H	H
2 Minor	L	L	M	H	H
1 Insignificant	L	L	L	M	M
	E Rare	D Unlikely	C Possible	B Likely	A Almost Certain
	LIKELIHOOD				

## LEGEND

E H M L	<p><b>Extreme risk</b> – Risk mitigation plan required, risk is unacceptable, detailed research and management planning required at senior levels.</p> <p><b>High risk</b> – Risk mitigation plan required, senior management attention needed, decision on acceptance of risk to be made by Process Owner and Process Manager.</p> <p><b>Moderate risk</b> – Management responsibility must be specified, decision on acceptance of risk to be made by Process Manager</p> <p><b>Low risk</b> – Risk is acceptable, monitored and managed by routine process</p>
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# Spot the Risk Hazard

- <https://www.youtube.com/watch?v=Yd8r5rgRQz4>
- Select 1 Hazard and please get into groups of 4 to develop a risk matrix

# Risk criteria - consequence

- Financial
- Health & Safety
- Environmental
- Reputation
- Community
- Legal
- Impact to business performance

# Consequence - example

Severity level	Consequence Types				
	Financial	Health and safety	Community/govt./reputation/media	Legal	Variance from Business Performance
<b>Catastrophic:</b>	>\$10M	Single fatality, or significant irreversible effects to >10 persons		Significant prosecution and fines Very serious litigation	>30% variance from business objectives/ KPI's
<b>Major:</b>	\$1M –\$10M	Severe irreversible disability (>30%) to one or more persons	Serious public or media outcry (national coverage)	Major breach of regulation Major litigation	10% - 30% variance from business objectives/ KPI's
<b>Moderate:</b>	\$100 000- \$1M	Moderate irreversible disability or impairment (>30%) to one or more persons	Significant adverse media/public/attention	Serious breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible	5% - 10% variance from business objectives/ KPI's
<b>Minor:</b>	\$10 000- \$100 000	Objective but reversible disability requiring hospitalization	Attention from media and/or heightened concern by local community.	Minor legal issues, non-compliances and breaches or regulations	2% - 5% variance from business objectives/ KPI's
<b>Insignificant:</b>	<\$10 000	No medical treatment required	Minor Adverse local public or media attention or complaints		<2% variance from business objectives/ KPI's

# Risk criteria - likelihood

- Frequency of events:
  - More than once a year
  - Once a year
  - Once every 5 years
  - Once every 10 years
  - Once every 30 years
- Probability of events
  - %
  - $P=0.1$
  - $P=1$

# Likelihood - example

	Description	Indicative frequency	Probability
<b>Almost Certain:</b>	The event will occur more than one time per year	Once a year or more frequently	> 95%
<b>Likely:</b>	The event has occurred several times over the past few years	Once every three years	60% - 95%
<b>Possible:</b>	The event might occur once in your career	Once every ten years	30% - 60%
<b>Unlikely:</b>	The event does occur somewhere from time to time	Once every thirty years	5% - 30%
<b>Rare:</b>	Rare possibility of the event occurring	Once every 100 years	<5%

# Controls

- Are measures that are put into place to manage risk;
- Which are set by management under guidance from the board (corporate governance framework);
- That provide assurance that risks are being managed.

# Control types

- Preventative
- Corrective
- Directive
- Detective
- Share (transfer)

# Control evaluation

- How effective are the controls?

- ✓ Effective

- ✓ Reservations

- ✓ Unsatisfactory

- ✓ Not evaluated

# Risk register

Risk Rank	Risk Ref	Name	Ctrl Consequence	Ctrl Likelihood	Ctrl Risk Level	Ctrl Risk Score
1	12	Inadequate scoping of work leading to potential under resourcing and financial impact	Severe	Almost Certain	Very High	25
2	2	Inadequate insurance leading to potential loss adjustment and financial loss	Catastrophic	Likely	Very High	20
3	3	Industrial action arising from changes in government policy leading to business disruption	Major	Likely	High	16
4	6	Limited products and services leading to potential reduction in competitiveness and budget shortfall	Major	Likely	High	16
5	9	Unskilled equipment operators leading to potential increase in industrial accidents resulting in fines and penalties	Severe	Possible	High	15
6	15	Potential poor project performance due to inadequate skill levels resulting in delays and financial impact	Severe	Possible	High	15
7	20	Poor contractor performance resulting in a reduction in project quality and financial impact	Moderate	Likely	High	12
8	4	Subcontractor poor performance resulting in disputes and potential legal claims	Moderate	Likely	High	12
9	13	Vandalism to equipment leading to increased costs and potential rise in insurance premiums	Moderate	Likely	High	12
10	8	Inadequate computer hardware leading to slower response times potentially impacting on productivity	Major	Possible	High	12

# Risk register

Risk Rank	Risk Ref	Name	Ctrl Consequence	Ctrl Likelihood	Ctrl Risk Level	Ctrl Risk Score
11	1	Inadequate human resources due to strong labour market resulting in potential delays in shipping and delivery	Minor	Almost Certain	High	10
12	5	Poor management and organizational review resulting in potential impact on business objectives	Moderate	Possible	High	9
13	7	Schedule delays due to poor quality control leading to possible contract disputes	Major	Unlikely	Medium	8
14	19	Major injury to staff due to failure to follow procedures leading to impact on OSH objectives	Moderate	Unlikely	Medium	6
15	16	Loss of key personnel due to competitor leading to potential business disruption	Moderate	Unlikely	Medium	6
16	10	Excessive dust and noise leading to likely increases in industrial action	Minor	Possible	Medium	6
17	11	Fire leading to business interruption	Major	Rare	Medium	4
18	14	Failure to develop existing and new clients due to inadequate marketing resulting in possible shortfall in budget	Minor	Rare	Low	2
19	17	Fraud or theft resulting in financial loss	Insignificant	Unlikely	Low	2
20	18	Poor motor vehicle maintenance leading to increases in insurance costs	Insignificant	Rare	Low	1

# Videos

**Risk management – Risk Register**

<https://www.youtube.com/watch?v=kagXUDLDUlo>

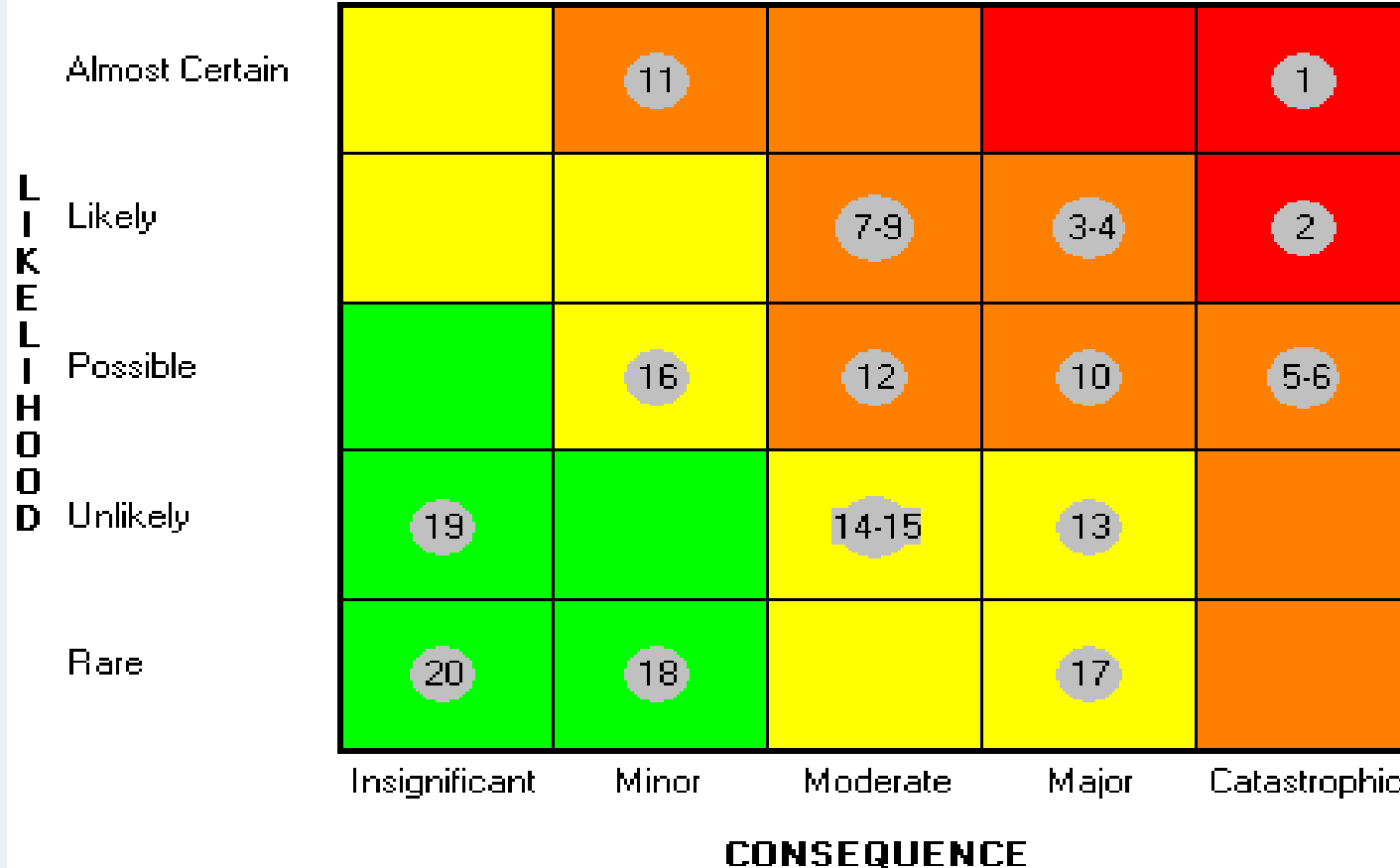
# Developing a Risk Register in Excel

<https://www.youtube.com/watch?v=aKRJloSAXnl>

# Risk profile

- Plots the risks in the risk matrix
- Indicates the nature of the risk
- High frequency/ low impact
- Low frequency/ high impact
- Different methods of displaying data

# Risk profile



 Risk after control assessment

The numbers in the grey circles represent the ranked position in the risk register (not the reference number)

## 1.1 Reports

### Risk Profile

Likelihood	Almost Certain			5, 6, 7, 8, 11, 15, 19 21, 22, 24	4, 25	
	Likely			9,13,16, 23, 26, 28, 33	12, 20, 27, 32	14
	Possible			17, 18	1,3,10, 29, 30	2, 13
	Unlikely					
	Rare					
		Insignificant	Minor	Moderate	Major	Catastrophic
Consequence						

Very High (VH) = Red; High (H) = Orange; Medium (M) = Yellow; Low (L) = Green

*Note the numbers represent the risk number as listed in the table on rank order.*

# Lecture 3- Section 5

- Risk Management process
- <https://www.youtube.com/watch?v=hyNUobjtuQg>

## Risk assessment tools

- Need to be used in context with the risk management activities
- Need to be:
  - Appropriate
  - Justifiable
  - Verifiable
  - Repeatable
  - Meet the organization's needs

# Risk assessment tools<sup>2</sup>

- Look-up methods
- Supporting methods
- Scenario analysis
- Function analysis
- Controls assessment
- Statistical methods

<sup>2</sup>IEC/ISO 31010:2009, Risk Management – Risk Assessment Techniques

# Categories of tools<sup>3</sup>

- Look-up methods:
  - ✓ Check lists (use previously developed lists or codes for identifying risks)
- Supporting methods:
  - ✓ Structured interviews
  - ✓ Brainstorming
  - ✓ Delphi technique

<sup>3</sup>IEC/ISO 31010:2009, Risk Management – Risk Assessment Techniques

# Other risk assessment tools

- Scenario analysis:
  - ✓ Root Cause Analysis (single loss)
  - ✓ Scenario analysis (future events)
  - ✓ Business Impact Analysis (disruption to business – used in Business Continuity Management)
  - ✓ Fault Tree Analysis (tree diagram)
  - ✓ Event Tree Analysis (use of likelihood of events occurring)
  - ✓ Cause-Effect Analysis (categories of different causes – Ishikawa “Fishbone” diagram)
  - ✓ HAZOP

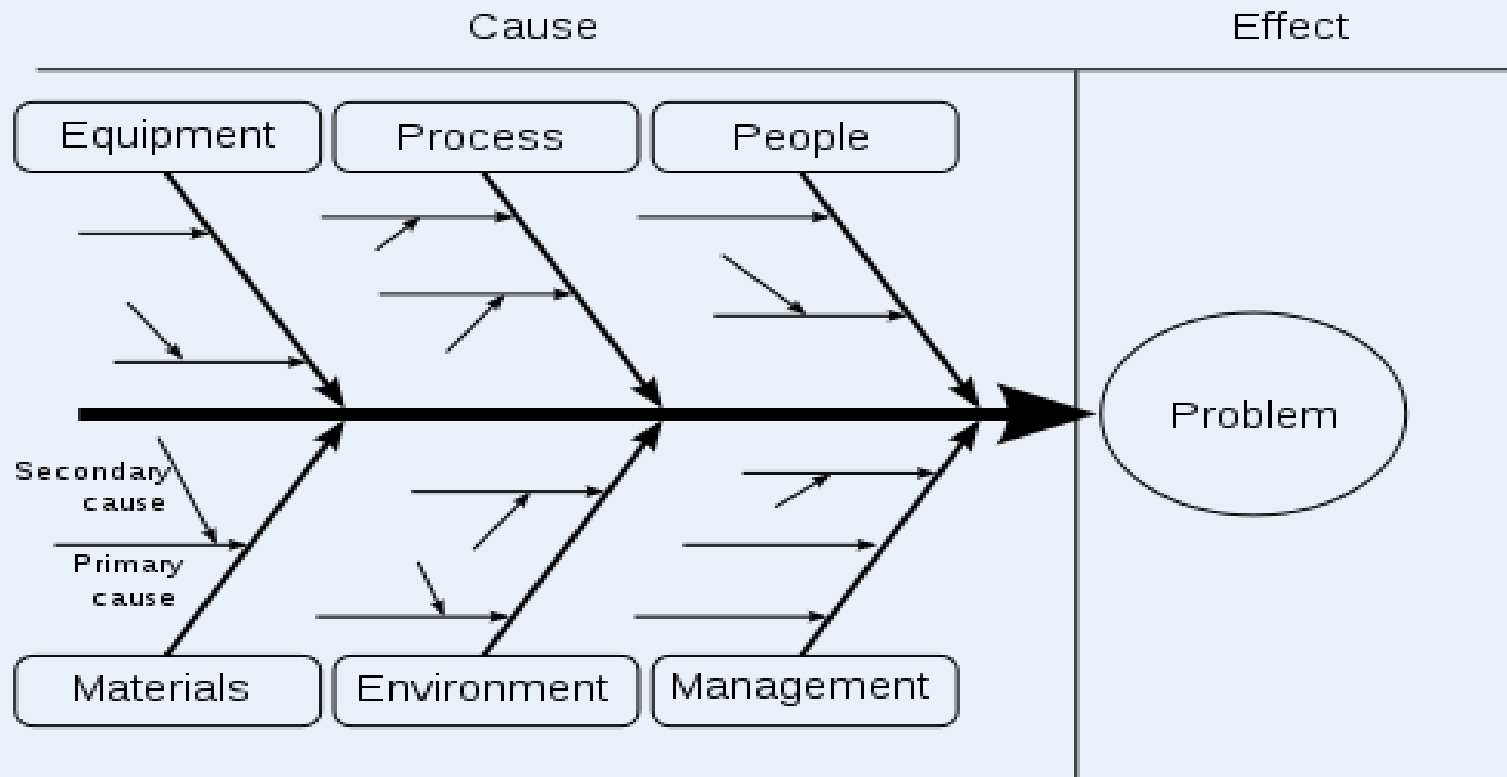
# Other risk assessment tools

- Function analysis:
  - ✓ FMEA (Failure Mode Effects Analysis)
  - ✓ FMECA (Failure Mode, Effects and Criticality Analysis)
  - ✓ HAZOP (Hazard and Operability Analysis)
- Control analysis:
  - ✓ Layers of Protection Analysis (LOPA)
  - ✓ Bow Tie Analysis (pathways of hazards and outcomes)

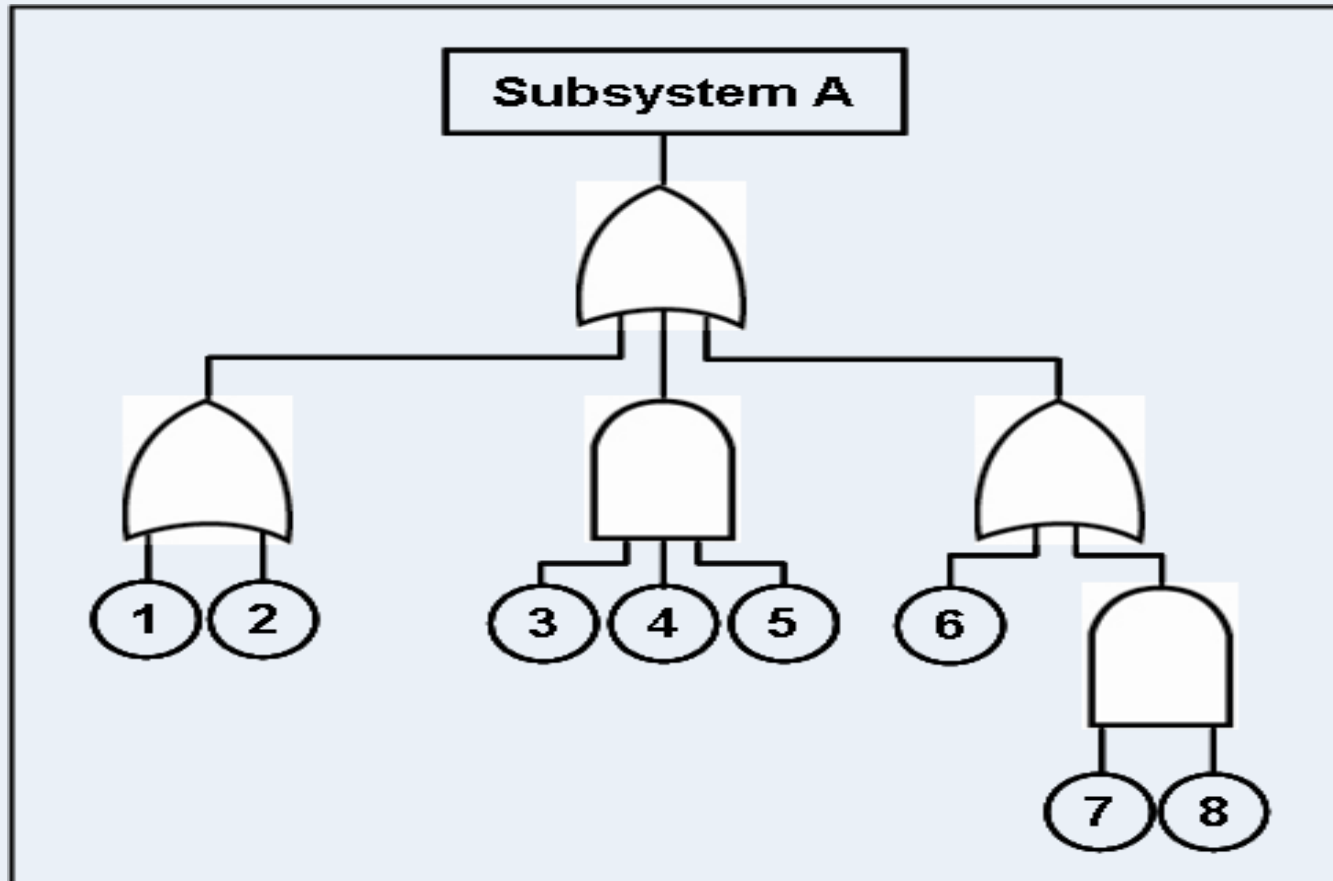
# Other risk assessment tools

- Statistical analysis for **Complex Risk Management**:
  - ✓ Markov Analysis (State/ Space analysis)
  - ✓ Monte-Carlo Modelling (simulation and mathematical modelling )
  - ✓ Bayesian Analysis (statistical analysis using prior distribution data)

# Fishbone diagram<sup>4</sup>

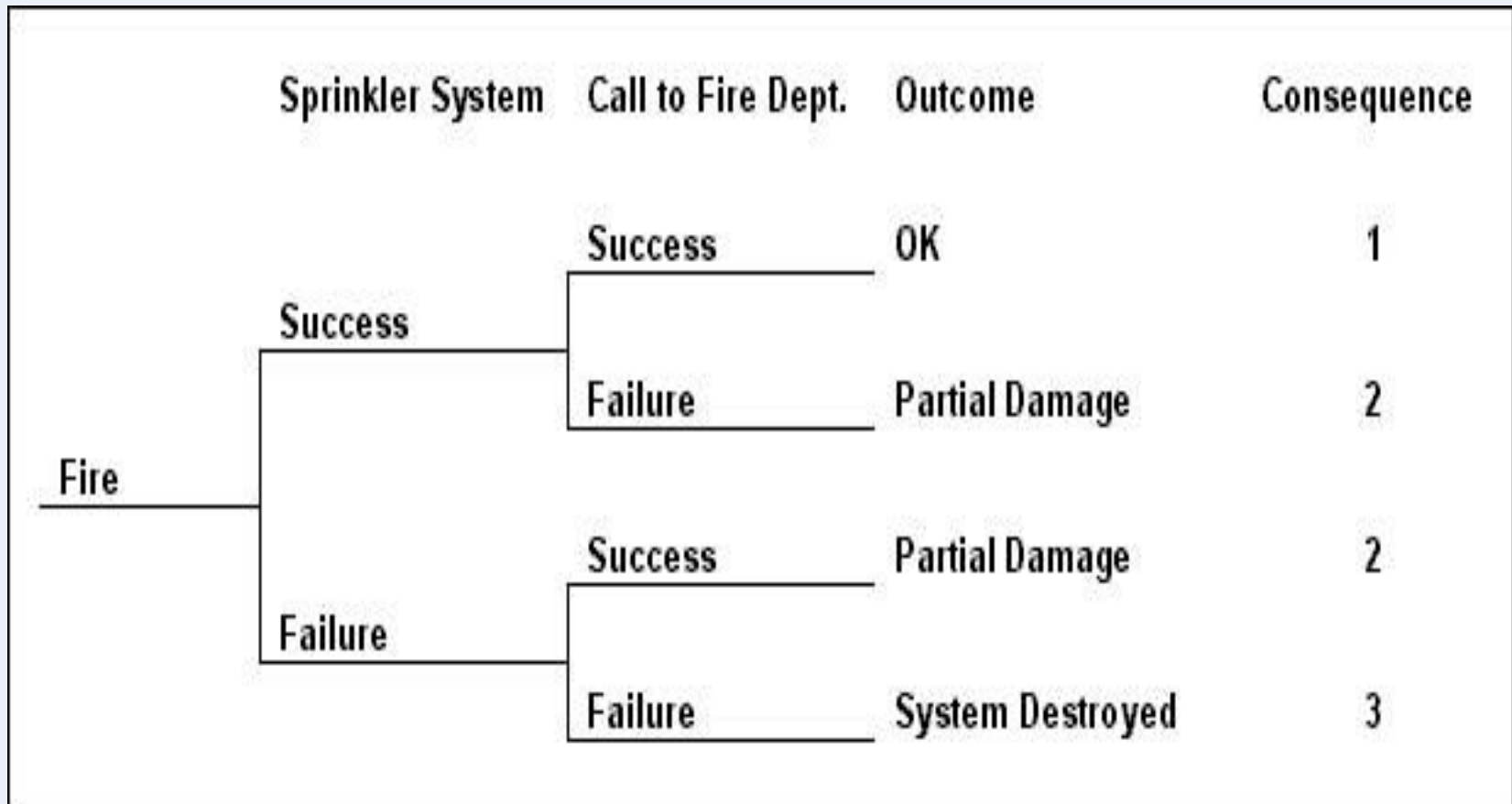


# Fault tree analysis<sup>7</sup>



<sup>7</sup> Wikipedia

# Event tree analysis<sup>5</sup>



<sup>5</sup> <http://www.event-tree.com/>

# Risk Assessment Tools

- FMEA & HAZOP

<https://www.youtube.com/watch?v=H7vyvrGRbXY>

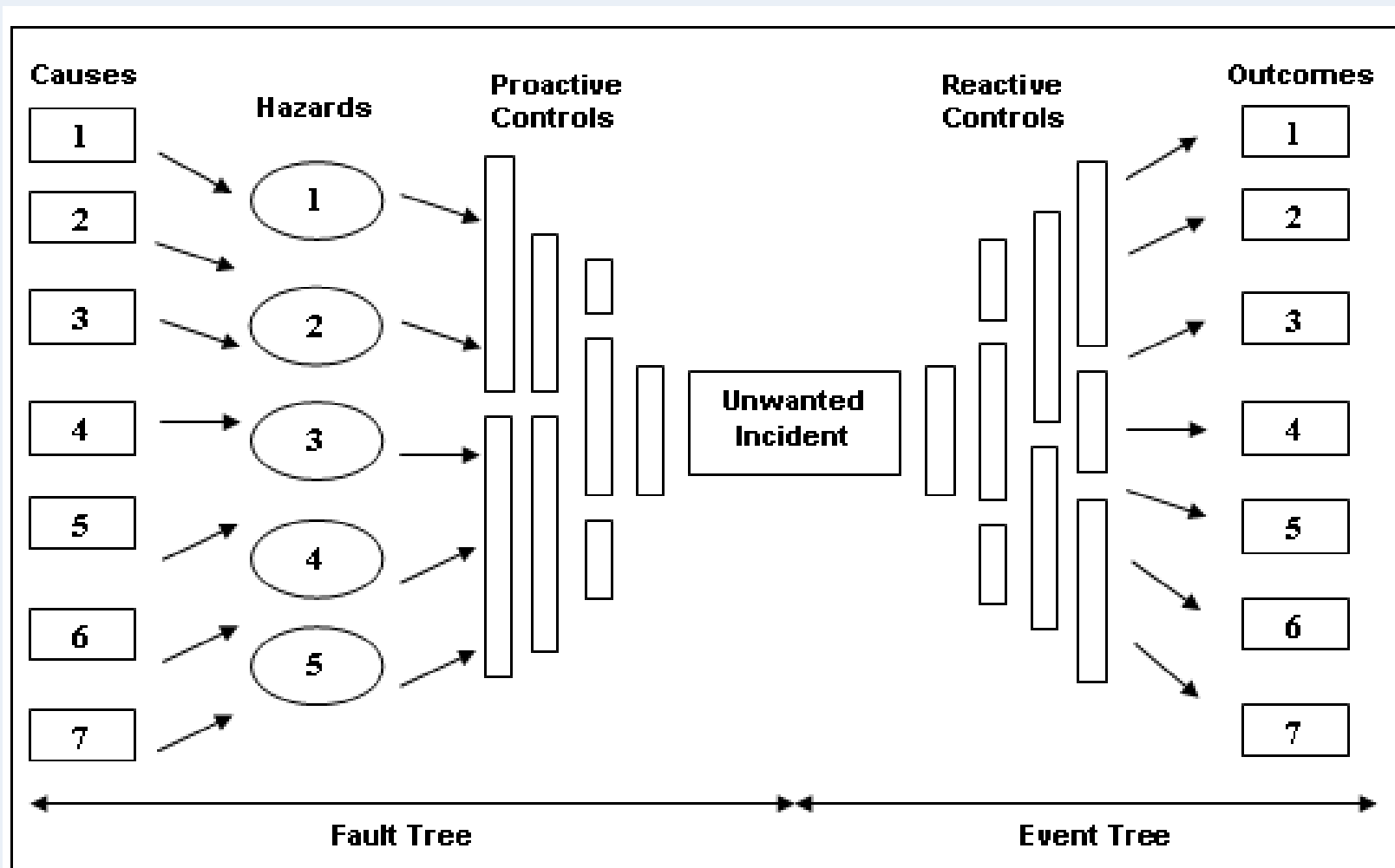
- Bow Tie

<https://www.youtube.com/watch?v=P7Z6L7fjsi0>

- Layers of Protection Analysis (LOPA)

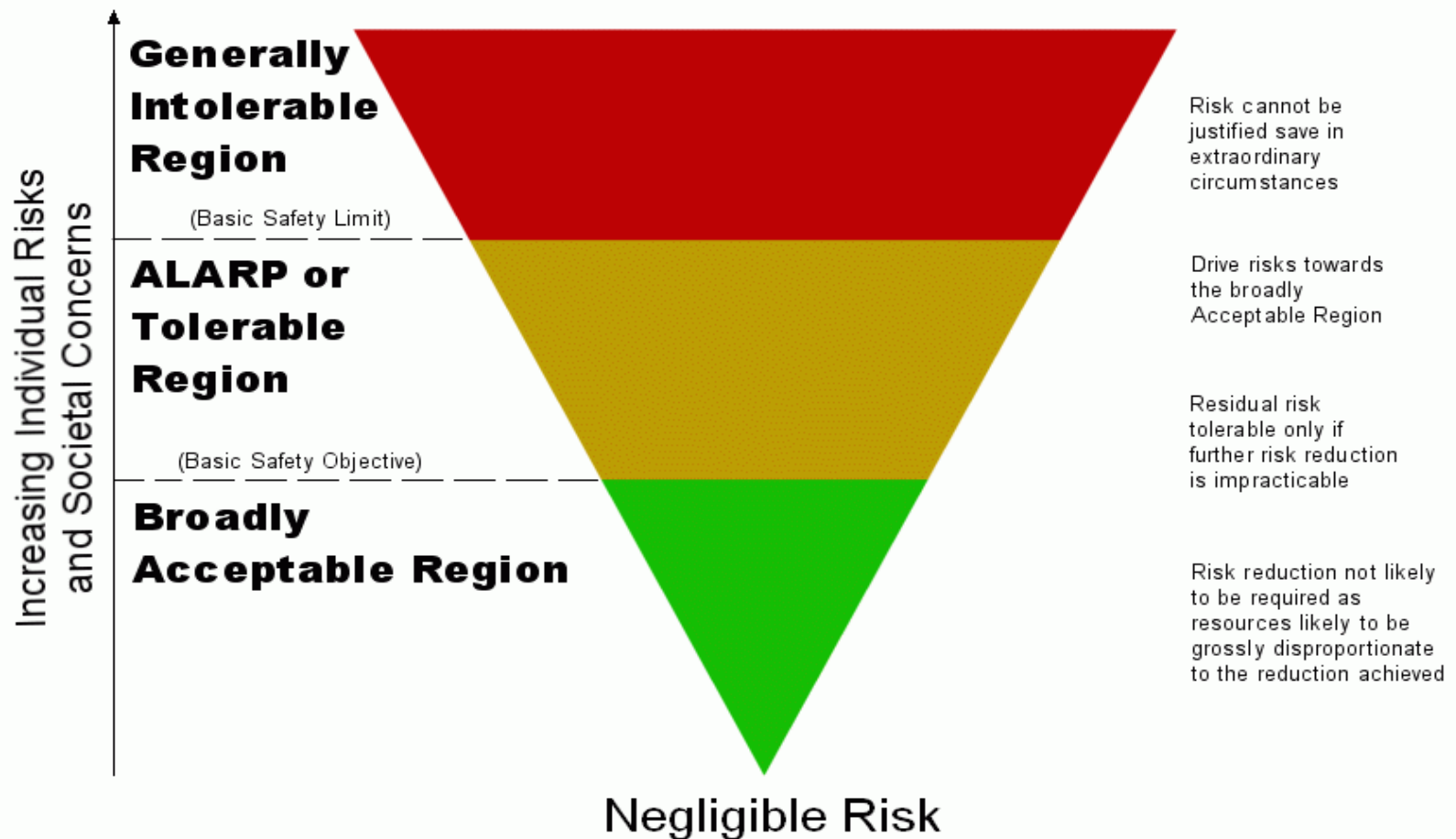
<https://www.youtube.com/watch?v=-FBiFbJsJFg>

# Bow Tie analysis<sup>6</sup>



<sup>6</sup> Wikipedia

# ALARP\* – AS/NZS HB 436:2004<sup>7</sup>



<sup>7</sup>AS/NZS HB 436:2004, Risk Management Guidelines

*\*As low as reasonably practicable*

# Risk assessment techniques

## **Risk Matrix**

<https://www.sia.org.au/download.aspx?link=2386>

## **Brainstorming**

[http://www.google.com.au/#hl=en&source=hp&q=risk+management+brainstorming+technique&aq=f&aqi=&aql=&oq=&gs\\_rfai=&fp=138ae808db9caca2](http://www.google.com.au/#hl=en&source=hp&q=risk+management+brainstorming+technique&aq=f&aqi=&aql=&oq=&gs_rfai=&fp=138ae808db9caca2)

## **Cause Effect**

[http://www.google.com.au/#hl=en&q=risk+management++technique+cause+effect&aq=f&aqi=g10&aql=&oq=&gs\\_rfai=&fp=138ae808db9caca2](http://www.google.com.au/#hl=en&q=risk+management++technique+cause+effect&aq=f&aqi=g10&aql=&oq=&gs_rfai=&fp=138ae808db9caca2)

## **Root Cause**

[http://www.google.com.au/#hl=en&q=risk+management++technique+root+cause&aq=f&aqi=&aql=&oq=&gs\\_rfai=&fp=138ae808db9caca2](http://www.google.com.au/#hl=en&q=risk+management++technique+root+cause&aq=f&aqi=&aql=&oq=&gs_rfai=&fp=138ae808db9caca2)

## **HAZOP**

[http://www.oshrisk.org/assets/docs/Tools/3%20Conduct%20Risk%20Assessments/HAZOP\\_Training\\_Guide.pdf](http://www.oshrisk.org/assets/docs/Tools/3%20Conduct%20Risk%20Assessments/HAZOP_Training_Guide.pdf)

## **FMEA & FMECA**

<http://www.fmeainfocentre.com/updates/jun09/FMEA%20and%20FMECA.PDF>

# Risk area framework

- Model or framework for categorising risks
- Method of reporting on risks across different processes or sources of risk
- Links risks to business processes
- Addresses externalities

# Risk area framework- ERM/ Operational

Area of Business
Financial
Commercial/Legal
Political
Management
Sales/Marketing
Human Resources
Occupational Health & Safety
Operations
Procurement
Delivery
IT/Technological
Environmental
Individual Activities

# Detailed risk register

<div> <div>Risk</div> <div>1</div> <div>Workplace unrest possibly leading to Industrial action and business disruption</div> </div>					
Risk Owner	John Smith				
Risk Status	Ongoing				
Control Effectiveness	Reservations				
	Consequence	Likelihood	Level of Risk	Risk Score	Acceptable
Controlled	Catastrophic	Almost Certain	Very High	25.00	No
Cause: Unions creating problems for the business Disgruntled staff Changes in industrial relations laws  Consequence: Disruption to work program / schedule Disruption to the workforce Liquidated damages					

# Detailed risk register

Risk 3 Inadequate insurance resulting in potential financial loss from loss adjustment					
Risk Owner	Steve Jones				
Risk Status	Complete				
Control Effectiveness	Unsatisfactory				
	Consequence	Likelihood	Level of Risk	Risk Score	Acceptable
Controlled	Moderate	Unlikely	Medium	6.00	Yes
<p>Cause:</p> <p>Misunderstanding of insurance requirements</p> <p>Inadequate advice from brokers</p> <p>Inadequate understanding of risk exposure</p> <p>Insurance cover not available</p> <p>Consequence:</p> <p>Financial loss</p> <p>Inability to bid on projects</p>					

# Risk ownership

- Provides accountability for action
- Ensures ownership of risk management
- Assists in the engagement of senior managers in the risk management process

# Summary

- Risk statements address uncertainty
- Risk assessment tools:
  - ✓ Used to identify and assess risks
  - ✓ Different tools used in different risk analyses
  - ✓ Need to customise approach to the context of the risk analysis
- Risk register contains the risks (assessed)
- Controls are measure in place to manage risks

**( Use these tools in your second Assessment 2)**

# Lecture 3- Terminology

## Risk appetite, risk tolerance and risk treatment plans

- Risk appetite
- Risk tolerance
- Risk attitude
- Establishing criteria and business rules
- Risk treatment options
- Risk treatment plans
- Accountability
- Resourcing
- Monitoring and review



# Risk appetite/ risk tolerance

- What is the risk appetite of the business?
- What is the risk tolerance of the business?
- What is the risk appetite/tolerance ***within*** the business”
- What is the capacity to retain risk?

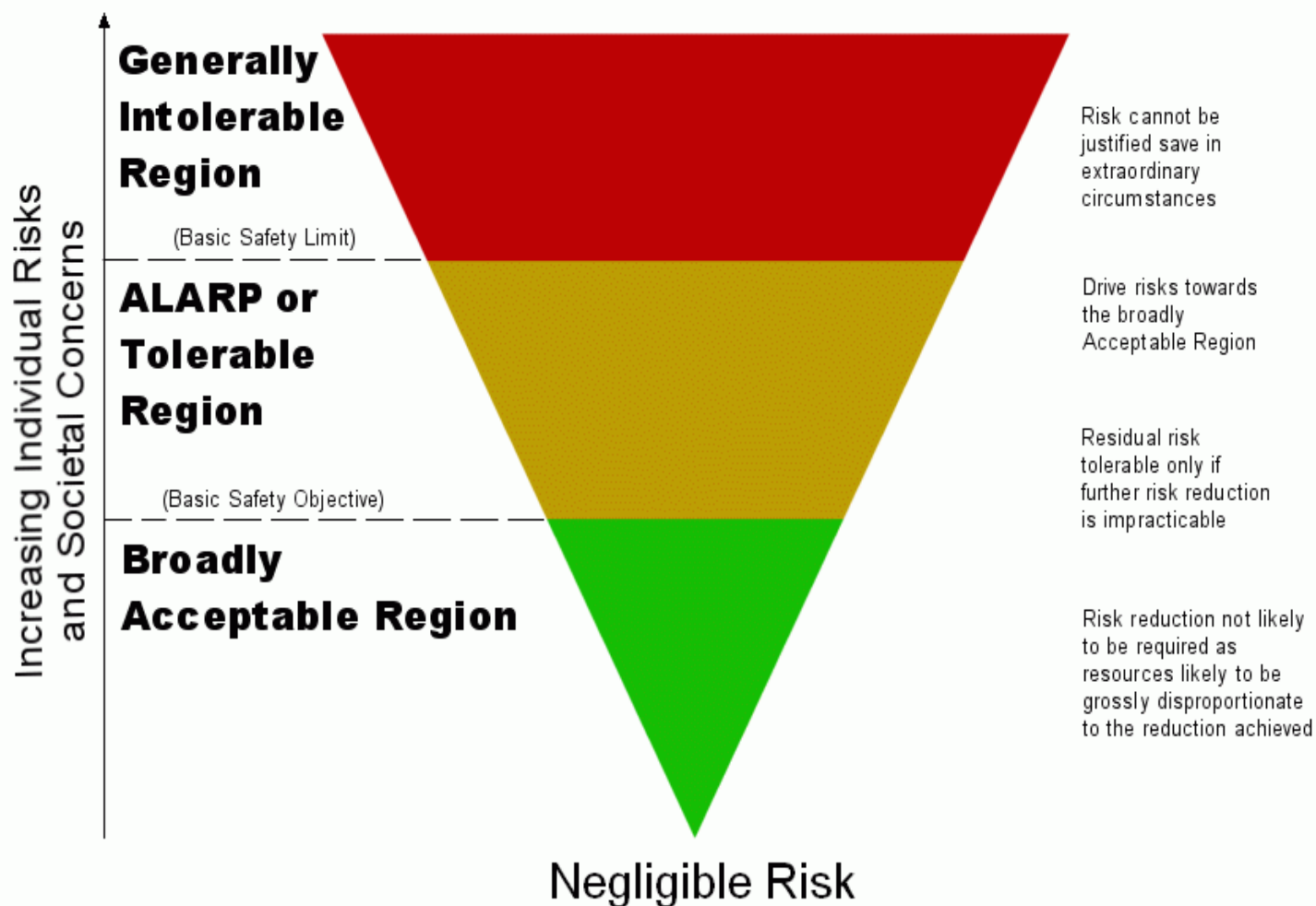
# Tolerable risk

- Sir Frank Layfield, 1987

*“Although acceptable risk is often used in balancing risks and benefits it does not adequately convey the reluctance with which possibly substantial risk and benefits may be tolerated”*

- Three bands of risks:
  - Upper
  - Middle
  - Lower

# ALARP – AS/NZS HB 436:2004<sup>1</sup>



<sup>1</sup>AS/NZS HB 436:2004, Risk Management Guidelines

# Risk appetite

- *“Amount and type of risk that an organization is willing to pursue or retain”<sup>2</sup>*

<sup>2</sup>. ISO Guide 73:2009 Risk management - Vocabulary

# Risk tolerance

- *“Organization’s or stakeholder’s readiness to bear the risk after risk treatment in order to achieve objectives”<sup>3</sup>*

<sup>3</sup>. ISO Guide 73:2009 Risk management - Vocabulary

# Risk Appetite & Tolerance

- <https://www.youtube.com/watch?v=ektmWa2b9VQ>

# Risk appetite/tolerance – business rules

Levels of Risk and Required Actions	
VH:	Very high risk – senior executive management attention needed, action plans and management responsibility specified, risks escalated to the Board
H:	High risk – senior executive management attention needed, action plans and management responsibility specified.
M:	Medium risk – manage by specific monitoring or response procedures, with management responsibility specified.
L:	Low risk – manage by routine procedures, unlikely to need specific application of resources.

# **Risk appetite/tolerance – within different contexts**

- Tolerance to health and safety impacts- low
- Tolerance to environmental impacts –low
- Appetite for innovation risk – high
- Appetite for new product/ new market risk - high

# **Risk appetite/tolerance – business objectives**

- Every organization has unique parameters (vision, purpose, values)
- Objectives vary from one time period to another
- Objectives drive strategy
- Risks potentially impact objectives

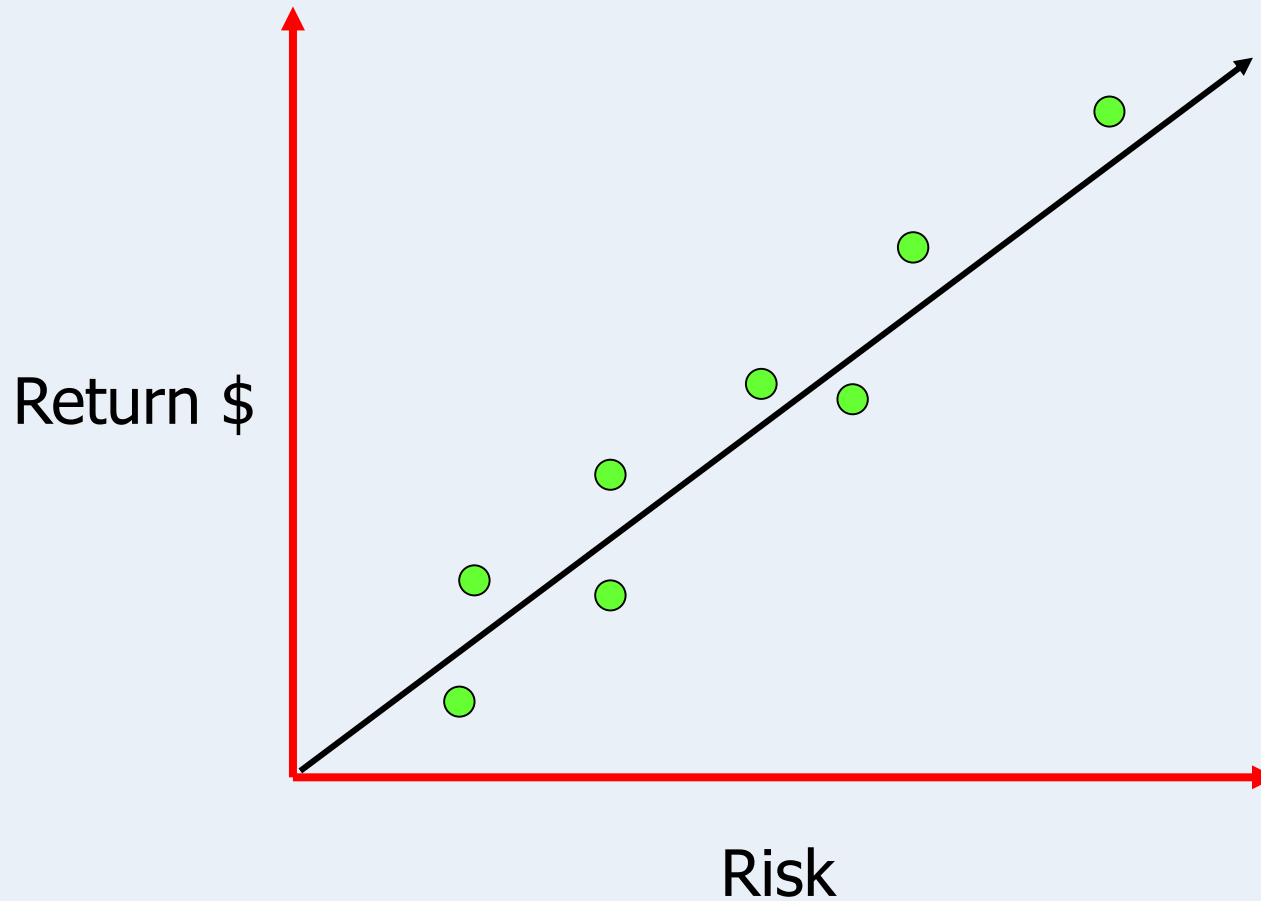
# Risk register

Risk Rank	Risk Ref	Name	Ctrl Consequence	Ctrl Likelihood	Ctrl Risk Level	Ctrl Risk Score	Acceptable
1	12	Inadequate scoping of work leading to potential under resourcing and financial impact	Severe	Almost Certain	Very High	25	No
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4	6	Limited products and services leading to potential reduction in competitiveness and budget shortfall	Major	Likely	High	16	Yes
5	9	Unskilled equipment operators leading to potential increase in <b>industrial accidents</b> resulting in fines and penalties	Severe	Possible	High	15	No
6	15	Potential poor project performance due to inadequate skill levels resulting in delays and financial impact	Severe	Possible	High	15	No
7	20	Poor contractor performance resulting increased for <b>accidents/injuries</b>	Moderate	Likely	High	12	No
8	4	Subcontractor poor performance resulting in disputes and potential legal claims	Moderate	Likely	High	12	No
9	13	Vandalism to equipment leading to increased costs and potential rise in insurance premiums	Moderate	Likely	High	12	No
10	8	Inadequate computer hardware leading to slower response times potentially impacting on productivity	Major	Possible	High	12	No

# Risk register

Risk Rank	Risk Ref	Name	Ctrl Consequence	Ctrl Likelihood	Ctrl Risk Level	Ctrl Risk Score	Acceptable
11	1	Inadequate human resources due to strong labour market resulting in potential delays in shipping and delivery	Minor	Almost Certain	High	10	No
12	5	Poor management and organizational review resulting in potential impact on business objectives	Moderate	Possible	High	9	No
13	7	Schedule delays due to poor quality control leading to possible contract disputes	Major	Unlikely	Medium	8	Yes
14	19	Major injury to staff due to failure to follow procedures leading to impact on OSH objectives	Moderate	Unlikely	Medium	6	Yes
15	16	Loss of key personnel due to competitor leading to potential business disruption	Moderate	Unlikely	Medium	6	Yes
16	10	Excessive dust and noise leading to likely increases in industrial action	Minor	Possible	Medium	6	Yes
17	11	Fire leading to business interruption	Major	Rare	Medium	4	Yes
18	14	Failure to develop existing and new clients due to inadequate marketing resulting in possible shortfall in budget	Minor	Rare	Low	2	Yes
19	17	Fraud or theft resulting in financial loss	Insignificant	Unlikely	Low	2	Yes
20	18	Poor motor vehicle maintenance leading to increases in insurance costs	Insignificant	Rare	Low	1	Yes

# Risk tolerance/appetite

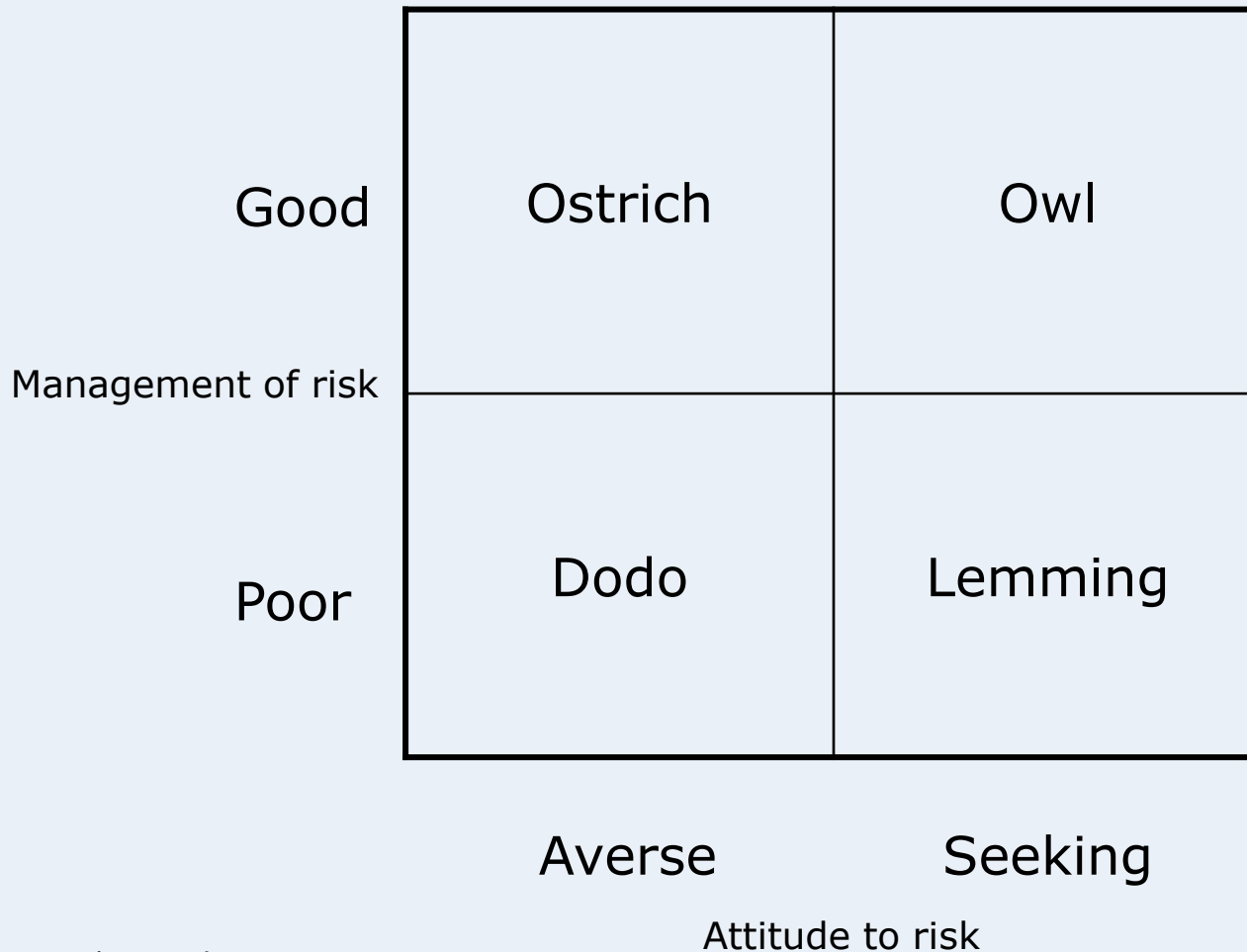


# Risk attitude

- *“Organization’s approach to assess and eventually pursue, retain, take or turn away from risk”<sup>3</sup>*

<sup>3</sup>. ISO Guide 73:2009 Risk management - Vocabulary

# Risk attitude within organizations<sup>4</sup>



<sup>4</sup> A. Holmes, 2004

# Risk treatment

- *“Process to modify risk”*<sup>5</sup>

<sup>5</sup>. ISO Guide 73:2009 Risk management - Vocabulary

# Risk treatment

- Method of reducing risks to acceptable levels
- Considers options based on analysis of costs expended (people, \$, time) and benefits gained
- Based on the “business rules” (risk appetite/risk tolerance levels)

# Designing risk treatment

- Review causes of risks:
  - Root cause analysis
- Review controls in place to manage risks:
  - Are they in place?
  - Are they being adhered to?

# Activity: Risk Treatment Scenarios- Bank X

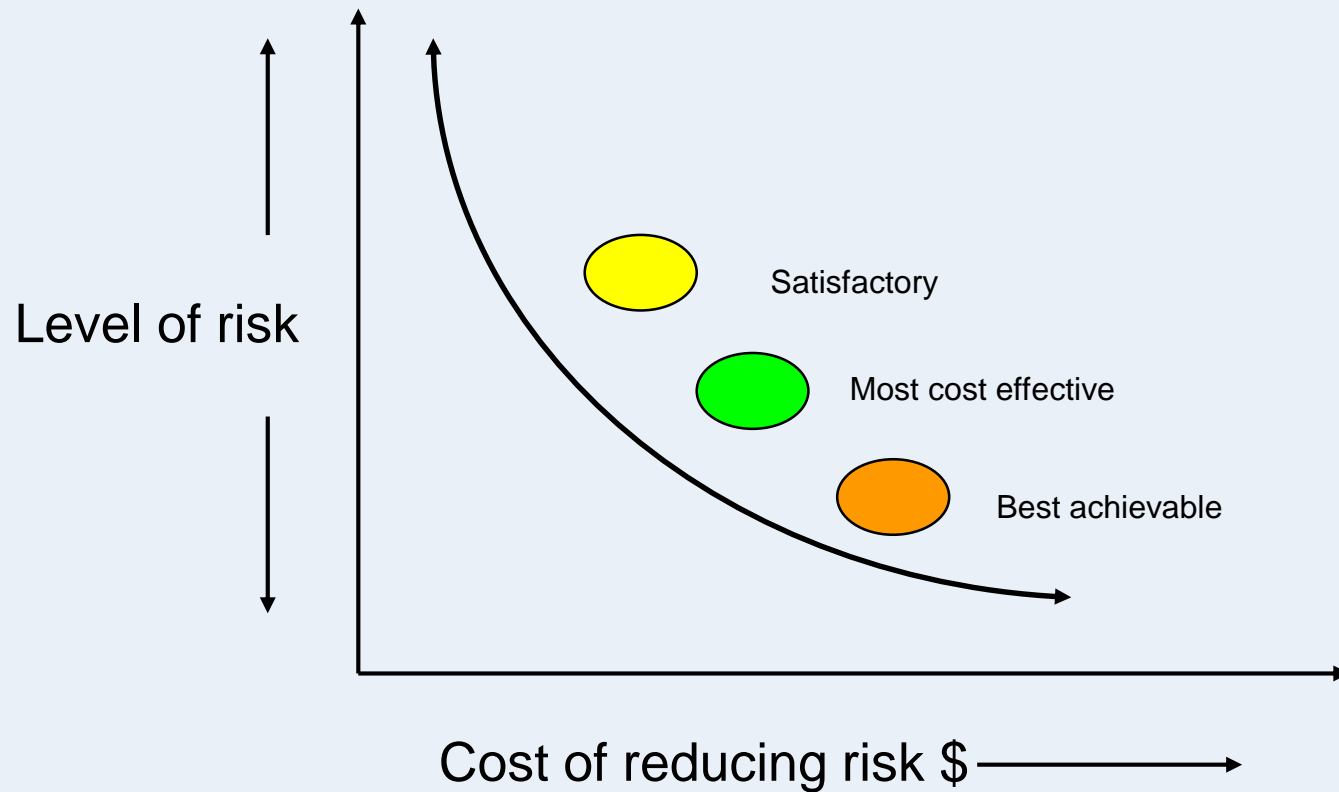
# Cost benefit analysis

- Identify options for risk mitigation
- Evaluate the option (cost/ benefit analysis):
  - Avoid the risk
  - Take the risk
  - Remove the source of the risk
  - Change the likelihood
  - Change the consequence
  - Change both likelihood and consequence
  - Share the risk with other parties
  - Retain the risk
- Develop the risk treatment plan

# Cost benefit analysis

- <https://www.youtube.com/watch?v=Qt8HNNWIV-c>

# Risk management





**Risk**  **Point**

**Risk Name:**

Business Area:

Options	Possible Treatment	Strengths	Weaknesses	Cost Estimate
1				
2				
3				
4				
5				

Preferred Risk Treatment Option(s)

# Risk treatment plan

- The documentation of the risk treatment, or “solution”
- Provides the mechanism for actions to be developed
- Provides resource requirements
- Provides time frames for execution
- Ensures accountability for action (risk owner)

# Risk treatment plan

- Rationale or reason for the plan (objective)
- Accountabilities (who is involved, who is responsible for the plan)
- Proposed actions
- Resource requirements (time, \$)
- Performance measurement
- Reporting
- Monitoring
- Timing and schedule

# Risk Treatment Plan

- <https://www.youtube.com/watch?v=3vxwMXHOqZg> ( 5 Mins)
- <https://www.youtube.com/watch?v=DTS9bvOQ-5g>  
( Longer version 38 mins for your own research time)

## Risk Treatment Plan Form

Risk #:	<input type="text"/>	Plan ref #:	<input type="text"/>
Risk Name:	<input type="text"/>	Risk Assessment:	<input type="text"/>
Compiled By:	<input type="text"/>	Date Logged:	<input type="text"/>
Treatment Plan Owner:	<input type="text"/>	Review Date:	<input type="text"/>
Reviewer:	<input type="text"/>	Target Date:	<input type="text"/>
		Priority H/M/L	<input type="text"/>

Treatment Plan:	<input style="width: 80%;" type="text"/>
-----------------	--

Treatment Plan Objective(s):	<input style="width: 80%;" type="text"/>
1. Proposed Actions:	<input style="width: 80%;" type="text"/>
2. Resources Required:	<input style="width: 80%;" type="text"/>
3. Responsibilities:	<input style="width: 80%;" type="text"/>
4. Timing for implementation:	<input style="width: 80%;" type="text"/>
5. Reporting (to who/from whom):	<input style="width: 80%;" type="text"/>
6. Monitoring requirements (i.e. weekly/monthly):	<input style="width: 80%;" type="text"/>

# Risk treatment plan<sup>6</sup>

Risk Management Guidelines Companion to AS/NZS 4360:2004			
TABLE 10.4 Risk treatment plan example			
Function/Activity:			
Risk:		Ref:	
Summary: Recommended response and impact			
Action plan			
1. Proposed actions			
2. Resource requirement			
3. Responsibility			
4. Timing			
5. Reporting and monitoring required			
Compiled By:	Date:	Reviewed by:	Date:

<sup>6</sup>AS/NZS HB 436:2004, Risk Management Guidelines

ing

Copyright

Function/Activity:		Compiled by:		Date:	
Date of risk review:		Reviewed by:		Date:	

[illegible]

Companion to AS/NZS 4360:2004

# Risk treatment plan

- Need to establish the priority of the plan (there are always competing interests and priorities in the business)
- May introduce “secondary” risks
- Actions may be more/ less satisfactory to different stakeholders

# Secondary risks

- Introduced through the risk treatment process
- Need to be considered when developing risk treatment options
- May increase overall risk position:
  - Hedging
  - Restriction on use of USB storage devices

# Contingency Reserves in projects

- Budget contingencies (% budget e.g. 10%)
- Schedule reserves  
(days in schedule – e.g. 5 per major task)

# Monitor and review

- Monitor what is “ongoing”
- Review frequency “periodic” (i.e., every 12 months)
- Review progress made in risk treatment plan implementation

# Summary

- Risk **appetite** and risk tolerance “sets the tone” for action
- Risk **attitude** is the approach to risk management adopted by organizations
- Risk **treatment** considers options in developing “solutions”
- The risk **treatment plan** contains resourcing, accountabilities, time frame for completion.

# Student Article Review

# Lecture 3- Risk management plan

- Risk management plan – overview
- Risk management policy
- Accountability and authority
- Management commitment
- Resources and infrastructure
- Structure of RMP
- Content of RMP

# The risk management plan (RMP)

*“(The RMP is a) **Scheme** within the risk management framework specifying the **approach**, the management **components and resources** to be applied to the management of risk.”<sup>1</sup>*

# The risk management plan (RMP)

*“The Risk Management Plan provides a **high level view** of risk management within the organisation and how it is embedded into the organisation’s activities.”<sup>2</sup>*

# Risk Management Plan –contents<sup>3</sup>

- Risk management **policy**
- **Internal** and **external** context
- Incorporation into **corporate governance**
- **Scope and objectives** of risk management activities
- Criteria for risk **assessment**
- Criteria for risk **tolerability**
- Risk management **responsibilities and functions**
- The **list of risks** and the **risk analysis** (appendix)
- **Risk treatment plans** (appendix)

# Global Financial Crisis- Bank X

<https://www.youtube.com/watch?v=Q-zp5Mb7FV0>

# Assignment 1- Headings

DESCRIPTION OF ELEMENTS	% (COMMENTS)
Use Section 3 and 4 : AS/NZS ISO 31000:2009- Guiding Principles and Framework to complete this assignment. Also use Australian/ New Zealand Standard HB 436:2004 Risk Management Guidelines as supporting documentation for terminology, principles and processes of risk management	
<b>1. Overview of case and business objectives (20%)</b> <ul style="list-style-type: none"> <li>• Background to the case (business, organisation, project)</li> <li>• Organisational structure</li> <li>• Mission of the business &amp; key business strategies</li> <li>• Business objectives</li> <li>• Current gaps to Risk principles (Standard Section 3 )</li> </ul>	
<b>2. Identify Stakeholders (20%)</b> <ul style="list-style-type: none"> <li>• Internal stakeholders</li> <li>• External stakeholders</li> <li>• Context of the business' objectives and potential risks</li> <li>• Describe internal risk environment</li> <li>• Describe external risk environment</li> </ul>	
<b>3. Integration risk management and developing Risk Framework (30%)</b> <ul style="list-style-type: none"> <li>• Current gaps in Risk management framework (Standard Section 4)</li> <li>• Expected value and benefit of formal risk management</li> <li>• Describe risk identified in business areas and risk categories</li> <li>• Potential Risk assessment criteria and techniques for continual improvement ( Section 4.2-4.6)</li> </ul>	
<b>4. Risk register (20%)- use suggested Risk Register on LMS based on (ISO 31000:2009)</b> <ul style="list-style-type: none"> <li>• Risks impact from objectives of the business/organisation/project</li> <li>• Development of causes (contributing factors) and assumptions</li> <li>• Statement of consequences or potential impacts</li> <li>• Identification and evaluation of risk response &amp; controls (in Risk Register)</li> </ul>	
<b>5. Style, flow and quality of supporting documentation (10%)</b> <ul style="list-style-type: none"> <li>• Clarity and flow of business context to risk management Framework</li> <li>• Quality of content of material presented</li> <li>• Cohesive approach to developing risk register to identify and manage risk</li> <li>• Timeliness of presentation of material</li> </ul>	

# Risk management policy- Assignment 1

- Objectives and rationale for managing risk
- Links between policy and the organisation's strategic plan
- The extent and types of risk the organisation will take
- The processes to be used to manage risk
- Accountabilities for managing particular risks
- Details of the support and expertise available to assist those accountable for managing risks

# Risk management policy (cont'd)

- Statement on how risk management performance will be measured and reported
- A commitment to the periodic review of the risk management system
- A statement of commitment to the policy by directors and the organization's executive

# Accountability and authority

- Directors and senior executives are ultimately accountable for the effective management of risk
- Senior executives delegate authority within the organization
- Risk owners need to have authority and responsibility to make decisions and effect change

# Accountability and authority (cont'd)

- Performance measurement needs to be **integrated** into the risk management system (and plan)
- **Sanction and reward** should be part of the accountability process

# Management commitment

- Management commitment is necessary for effective risk management
- Risk management needs to be part of the “day-to-day” operations of the business or organisation

# Resources and infrastructure

- The risk management plan details resources required to implement the plan
- It details the integration of risk management into existing processes and procedures
- It articulates the communication and consultation processes

# Resources and infrastructure (cont'd)

- The risk management plan contains the **monitor and review process**
- It incorporates risk management into **business planning**
- And integrates into the **quality management system:(plan, do, check, act)**



## Assignment 2- Headings

1	<b>Plan Structure (30%)</b>
	<b>Elements</b> <ul style="list-style-type: none"><li>• Table of contents</li><li>• Executive Summary/Introduction</li><li>• Definitions/ glossary of terms</li><li>• Objectives of risk management plan</li><li>• Risk management policy i.e. Interdependency with strategic planning &amp; corporate governance</li><li>• Organisation and responsibilities, accountability &amp; Communication/consultation</li><li>• Risk management programme &amp; processes - describe the risk management (5.2 5.3 &amp; 5.6) assessment process (methodology- Section 5.4 &amp; 5.5)</li><li>• Performance measurement of the plan</li><li>• Risk management implementation plan</li><li>• Enterprise Risk Management (Evaluate potential to use COSO standards)</li><li>• Appendix reports (risk by area, risks by owner, risks with controls)<ul style="list-style-type: none"><li>○ Risk management framework (including context, matrix, criteria)</li><li>○ Risk register</li><li>○ Risk profile</li><li>○ Risk appetite and risk tolerance</li><li>○ Risk treatment plans</li><li>○ Monitor and review</li></ul></li></ul>
	<b>Does the plan address the task sufficiently? Comments:</b>
2	<b>Strategic and analytical thinking (50%)</b> <ul style="list-style-type: none"><li>• Logical development of the plan</li><li>• Development of risk management context in line with the business case</li><li>• Integration of the principles, framework and processes</li><li>• Use of appropriate risk identification and assessment tools</li><li>• Clear and logical execution of the elements of the plan</li></ul>
	<b>Comments:</b>
3	<b>Style and presentation (20%)</b> <ul style="list-style-type: none"><li>• Fluent &amp; succinct (i.e. A&gt; B &gt; C )</li><li>• Effective paragraph structure for summary</li><li>• Legible and professionally presentation</li><li>• Correct Grammar &amp; spelling (use checks)</li><li>• Appropriate professional layout – (inc. spacing)</li></ul>
	<b>Comments:</b>

# Structure of the RMP – just a guide<sup>4</sup>

- Introduction/Executive Summary
- Definitions or glossary of terms (terminology used in the RMP)
- Objectives (of risk management plan)
- Risk management policy (**From Assignment 1**)
- Interrelationship with strategic planning
- Interrelationship with corporate governance
- Organization and responsibilities/ accountability (**From Assignment 1**)
- Communication and consultation (**From Assignment 1**)
- Risk management framework (context, stakeholders, tools, matrix, criteria) (**From Assignment 1**)
- Risk management processes (methodology)

# Structure of the RMP – cont'd

## In the Appendix

- Risk register (**From Assignment 1-Extension**)
- Risk profile (**From Assignment 1-Extension**)
- Risk appetite and tolerance (**From Assignment 1**)
- Risk treatment plans
- Monitor and review
- Risk management programme
- Performance measurement of the plan
- Risk management implementation plan
- Appendices (sub reports)

# Introduction/Executive summary

Contains:

- A **summary** of the **plan and its purpose**
- The **link** between risk management activities and the organisation/business
- Reference to **related or connected documents**
- Explanation to the reader of **how the plan fits into the organisation**

# Definitions/ glossary of terms

Contains definitions or terms used in the RMP:

- Risk
- Risk assessment
- Risk management
- Risk appetite
- Risk tolerance
- Risk treatment
- Risk sharing

# Objectives

Contains:

- The **objectives** of the RMP
- The **scope/ context** of the RMP (enterprise, business unit, division, project)
- Expected **outcomes**

# Risk management policy

## Contains:

- Risk management policy of the organization/business
- (Refer slides 11 & 12)

# Interrelationship with strategic planning

## Contains:

- Link to strategic planning **process**
- Link to strategic planning **activities/ timing**
- **SWOT**

# Interrelationship corporate governance

## Contains:

- Link to corporate governance framework of the business/ organization
- Relationship between risk management and corporate governance principles
- Accountabilities
- Informed Board

# Organization and responsibilities

## Contains:

- Risk management sponsor
- Risk manager/co-ordinator(s)
- Other related management:
- Operations manager
- Marketing manager
- Human resources manager
- IT manager etc.

# Communication and consultation

## Contains:

- Internal stakeholder communication
- External stakeholder communication
- Consultation activities
- Communication processes
- Communication activities
- Risk training and education programmes

# Risk management framework

Contains:

- Context
- Matrix (or other tools)
- Criteria
- Risk appetite/ tolerance

# Risk identification & assessment techniques

Contains:

- Techniques used
- **Rationale** for the use of technique(s) adopted

# Risk management process

## Contains:

- Methodology used (i.e., AS/NZS ISO 31000, Risk management – Principles and guidelines)
- Other methodologies or Standards
- How risks were identified (i.e. IEC/ISO 31010, Risk management – Risk assessment techniques)
- How risks were analysed/ assessed

# Risk registers

## Contains:

- Risk registers:
- Summary
- Detailed (i.e., risk by area/source, risk by owner, risks with controls)

Note: Some of the detailed work may be contained in the Appendices

# Risk profile

Contains:

- Risk profile of the business/ organization
- The plot of risks onto the matrix

# Risk appetite/ risk tolerance

## Contains:

- Statement or position of risk tolerability
- May be in **table** form
- May be in **graphical** form and/or
- Set in **context** of the organisation

# Risk treatment planning

## Contains:

- Risk treatment options
- Analysis of the options
- Risk treatment plan

# Risk treatment plans

Contains:

- Statement of what the plan is aimed at achieving
- Objectives of the plan
- Key actions
- Resources (people, time, \$)
- Accountabilities (who is involved with the development and implementation of the Plan)
- Time frame (for completion/ execution)
- Monitor and review (progress made on implementation)

# Monitor and review

## Contains:

- Monitoring process of risks and risk management activities
- Review of risks
- Review of risk treatment plan implementation
- Review of risk management framework and system

# Risk management program

## Contains:

- Risk management activities
- Risk management timeframe
- Risk management implementation program/schedule:
  - What will happen?
  - By when?
  - With whom?
  - With what resources?

# Performance measurement

Contains:

- How the performance of the risk management **activities** will be **measured**
- How the performance of the risk management **system** will be **measured**
- Risks (are they being **mitigated** to acceptable levels?)
- Risk treatment plans (are they being **completed according to the schedule?**)
- Risk management processes (does it still **suit the business?**)
- **Degree of/level of risk management embeddedness** (is it part of day-to-day activities and reporting?)

# Implementation plan

Contains:

- How the risk management plan (RMP) will be **implemented** in the business
- **Time line** on activities
- **Milestones** for achievement
- Training/ education/ awareness

# Appendices

## Contains:

- Risk registers:
- Risks with controls
- Risk by business area
- Risk by owner
- Risk treatment plans (including risk treatment options analysis for the purpose of the assignment); and
- Any other relevant documents

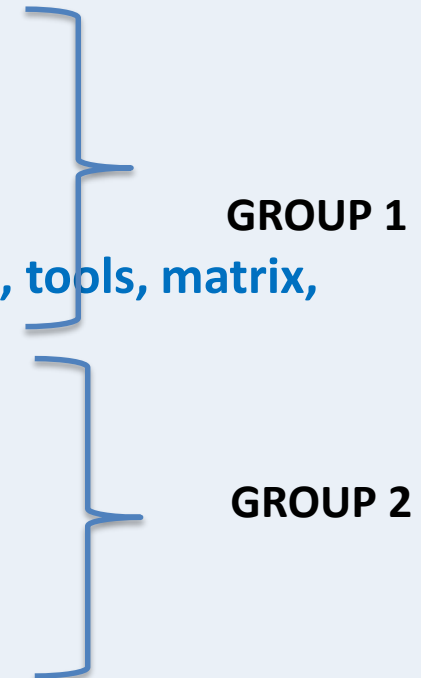
# ACTIVITY - Scenario for Risk Management Plan

4 Groups to analyse and develop a RM:

- Can communicate with other groups as you are ALL in 1 Company
- Bank X Scenario presented to group
- Then watch
  - <https://www.youtube.com/watch?v=Q-zp5Mb7FV0>

# **STUDENT ARTICLE REVIEW**

# Structure of the RMP – just a guide<sup>4</sup>

- Introduction/Executive Summary
  - Definitions or glossary of terms (terminology used in the RMP)
  - Objectives (of risk management plan)
  - Risk management policy
  - **Interrelationship with strategic planning**
  - **Interrelationship with corporate governance**
  - **Organization and responsibilities/ accountability**
  - **Communication and consultation**
  - **Risk management framework (context, stakeholders, tools, matrix, criteria)**
  - **Risk management processes (methodology)**
- 
- GROUP 1**
- GROUP 2**

# Structure of the RMP – cont'd

## In the Appendix

- **Risk register** (Top 5 Risks only – 1 representative to brainstorm)
  - **Risk profile**
  - **Risk appetite and tolerance**
  - **Risk treatment plans**
  - **Monitor and review**
  - **Risk management programme**
  - **Performance measurement of the plan**
  - **Risk management implementation plan**
  - Appendices (sub reports)
- GROUP 3**
- GROUP 4**

# Summary

- Risk management plan
- Risk management policy
- Accountability and authority
- Management commitment
- Resources and infrastructure
- Structure and content of RMP