



Play Training Module

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How to Do a Risk Assessment

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1. Introduction

Welcome to “How to Do a Risk Assessment”. Over the next few minutes you’ll learn how to develop a practical and effective risk assessment in a few easy steps. This is a basic or beginners guide only, designed for small risk issues and for general awareness. For important, larger or complex risk issues please consult a professional risk manager or relevant references.

This training is for insurance purposes only. It is not a comprehensive guide and does not ensure compliance with any standards, regulations or statutory obligations. Not all conditions or situations are discussed or contemplated. Rather the module targets the most common and most important issues and concepts, in order to keep the training brief, practical and effective. Please note that effective Risk Assessment and controls will reduce risk but will **not eliminate** it. Risk Management should therefore be seen as a “Continuous Improvement” process.

In order to assist you through the process, a “Risk Assessment Guide” has been provided. It’s recommended that you print out the guide now and refer to it as you go through this training module. The guide contains example risk assessment tools and templates for use in risk assessments.

For the purposes of this training, the risk of a possible event occurring equals the consequence of that event occurring multiplied by the likelihood of that event occurring.

Risk level = Consequence x Likelihood

2. Objective of a Risk Assessment

The objective of a risk assessment is to manage significant risks cost effectively, while ensuring that risk controls are acceptable and appropriate.

A Risk Assessment should include the following steps:

Step 1 - Context Section 3	Before we start we must set the Context of the Risk Assessment
Step 2 – Identification Section 4	Identify all significant risks to objectives or goals. (In order to do this you must first identify what are the relevant objectives, then what are the risks to these objectives.)
Step 3 - Quantification Section 5	Estimate the size of risks. (This will allow us to compare and prioritize risks for attention and reduction, based on size.)
Step 4 - Control Section 6	Decide on the most effective, acceptable and appropriate controls for each risk, based on: <ul style="list-style-type: none"> ▪ the size of the risk ▪ the acceptable or tolerable levels of risk ▪ how much each proposed control will reduce the risk ▪ and how the cost of the control compares with the potential risk reduction. That is to say the cost benefit ratio of the control.
Step 5 – Responsibility Section 7	Nominate a person to be responsible for managing each significant risk.

3. Step 1 - Set the Context

Before starting a risk assessment it is essential to set the context by

- Identifying what **objectives are at risk**. A Risk assessment is about assessing risks to objectives. If you don't have objectives, you don't have any risks.
- Deciding **who's perspective** the risk assessment will represent. That is to say who's risks are you assessing - a community's, an organisation's or an individual's, etc? Normally a risk assessment is conducted from the perspective of the group you are working for.
- Set the **scope** of the risk assessment - what will be included, what won't be included?

An issue which sometimes occurs during risk identification is deciding what group of risks should be located on a single line. As an example should all the fire risks for a single site be located on one line of a Risk Register? The rule of thumb is that risks which will have the same or similar controls should normally be grouped together in a single line. You can break up these risk groups into different lines if you wish but this normally tends to make the Risk Register larger and more complex than is necessary or helpful.

5. Step 3 - Quantification - Estimate How Big Each Risk Is

The next step is to estimate the size or how important each risk is and how the size of each risk compares to other risks. We do this by estimating the consequences and likelihoods of identified significant risks. The risk level is then the mathematical product of the estimated consequence and likelihood. That is - Risk level = Consequences x Likelihood.

To accurately estimate a risk level, we must first develop and document a loss scenario for the risk, which includes how the loss could occur and a description of the consequences. Make sure all the consequences are included – That is - injuries, lost assets, lost revenue, loss of reputation, environmental losses and legal losses. If you leave any consequences out you will understate the consequences of the risk.

Detail the loss scenario and the consequences of that scenario in the “Risk Description” column under the risk name.

Risk ID.	Risk Description (what could possibly happen) -Scenario -Consequences -Timing / Timeframes	Existing Controls
	<p>Fire destroys production building.</p> <p>Loss Scenario Fire starting in production building spreads to totally destroy building and contents</p> <p>Consequences</p> <ul style="list-style-type: none"> ▫ 1 serious injury to employee ▫ Building and contents will cost \$1,000,000 to replace ▫ Building will take 6 months to rebuild, in which time \$2,000,000 in production revenue will be lost. 	

Compare the total consequences above with the “Consequence Estimation Table” in the “Risk Assessment Guide” and choose the closest (most appropriate) consequence level.

In the example above the most appropriate consequence level is \$1,000,000.

While developing the loss scenario and specific consequences, it is important to take into account the existing controls. The existing controls will affect the likelihood and perhaps even the consequences of a scenario. The relevant existing controls should be recorded in the column provided in the “Risk Register”. If you do not consider existing controls, you will over estimate the likelihood of the scenario and hence the risk level of the scenario.

For example fire alarms and fire extinguishers will reduce the likelihood of a fire destroying a building. This reduced likelihood, taking into account existing controls, should be the likelihood which is used in the estimation. Choose the closest (most appropriate) likelihood level from the “Risk Matrix” in the “Risk Assessment Guide”. For the purposes of this demonstration we will assume the likelihood of a fire causing total building destruction is a 1 in a 100 chance each year or a one percent chance each year.

Existing Controls	Consequences (\$)	Likelihood (1:y) (eg. 1 in 100 each year)	Risk (\$/y)
Fire alarms and fire extinguishers	\$1,000,000	1/100	

Another common reason for over estimation of risk levels is estimating the likelihood of a scenario before estimating the consequences of a scenario. This causes over estimation because you may not be considering the likelihood of incurring all of the consequences listed. For example the likelihood of a minor fire in the building will be much higher than the likelihood of a fire which destroys the building. Over estimation of the likelihood will lead to over estimation of the risk. To avoid this always estimate the consequence before the likelihood as described previously.

The estimated consequences and likelihood of a loss scenario should be recorded in the “Consequences” and “Likelihood” columns of the “Risk Register”. Once you have chosen the appropriate consequence and likelihood levels you can use the “Risk Matrix”

to determine the estimated risk level. This risk level should then be recorded in the “Risk” column of the “Risk Register”

In our example the estimated risk level is \$10,000 each year. This risk level gives an indication as to what you might pay a third party to bear this risk. The risk level should also be used to prioritise risks for attention and to help determine the cost effectiveness of proposed controls. This will be discussed further in the next section.

Existing Controls	Consequences (\$)	Likelihood (1:y) (eg. 1 in 100 each year)	Risk (\$ each year)
Fire alarms and fire extinguishers	\$1,000,000	1/100	\$10,000

6. Step 4 - Decide on the Most Effective Control

A Risk Control is defined as actions which will favourably alter or manage a current risk. Risk Treatments can be split into four groups:

- Reduce risk – altering consequences or likelihood
- Transfer risk – via insurance or contracts
- Finance risk – hedging or putting money away for a rainy day
- Avoid or postpone – that is to say, actively avoid a risk. Ignoring a risk is not an appropriate option.

Risk reduction or avoiding a risk should generally be the first controls to be considered with the other controls being used only when risk reduction or avoiding is not effective or economic.

Risk controls can be preventive, responsive or recovery in nature.

- Preventive – prevent the event from occurring
- Responsive – reducing initial impact if an event does occur. Fore example - fire suppression systems
- Recovery - Plans to improve recovery and reduce impact. For example - Business continuity plans

Care should be taken to ensure that all control options are considered. Only then should the most appropriate mix of controls be determined.

Determining the most appropriate way of controlling a risk can be a complex and subjective process but a simplified approach is to decide on the most effective and appropriate controls for each risk, based on the following points.

- Deal with the biggest risks first. The size of the risks should be used as an indication of how resources are allocated to control those risks.
- Some risks are too large to be tolerated and must be reduced to acceptable or tolerable levels. The setting of these levels is subjective but the levels should be consistent.
- How cost effective is each control at reducing risk. That is to say, how much will each control reduce risk and how does this risk reduction compare with the cost of the control (this is the cost benefit ratio). If the risk level is shown as \$ per year, the amount can be used as a guide to determine how much can be cost effectively spent per year to reduce the risk to zero. Note that most risks cannot be reduced to zero.

You will note that the “Risk Register” includes a column to record potential or agreed controls.

Consequences (\$)	Likelihood (1:y) (eg. 1 in 100 each year)	Risk (\$ each year)	Potential Risk Controls (Controls, Studies for Consideration or implementation)
\$1,000,000	1/100	\$10,000	Sprinkler systems

7. Step 5 - Allocate Responsibility for the Management of Each Risk

The last step in a risk assessment is to allocate someone to be responsible for the management of each risk. If the risk is large enough, this responsibility may include the development of plans for implementation and maintenance of controls and the development of reports. The process to select the appropriate person for the management of each risk should take into consideration the following points:

- larger risks should generally be allocated to more senior people and

- the person who deals most with the risk and is the most knowledgeable is generally in the best position to manage the risk

You will note that the “Risk Register” includes a column to record the responsible person.

Likelihood (1:y) (eg. 1 in 100 each year)	Risk (\$ each year)	Potential Risk Controls (Controls, Studies for Consideration or implementation)	Responsibility
1/100	\$10,000	Sprinkler systems	Joe Blow

Congratulations on completing this Training Module.