Risk

What is risk ?

How to use a risk matrix?

What is Risk ?

Life is full of risks, from the time we wake up to the time we go to sleep, and even in between.

For example...

Breathing 

Air pollution causes about 7 million deaths each year.

Eating 

Food borne illness causes about 420,000 deaths each year.

Traveling 

Road accidents cause over 3,000 deaths each day.

In fact, every day we have to make constant decisions about the risks we face.

There are situations in which we need to know what the risk is from certain events ?

So that appropriate action can be taken...✅

For example...

What is the risk to health from a new influenza virus 🦠 , an industrial chemical accident 🏭 or a bushfire ? 

What exactly is Risk ?

Risk can mean different things to different people and in different contexts.

It depends on viewpoints and context ... but in very simple terms

Risk is the product of how likely someone is to be exposed to something bed, a hazard, and the consequence, which is how bad the outcome will be.

Say you have to cross a road and you're trying to figure out what the risk associated with this is

Scenario 1



Assume that only bicycles are allowed on this road, and that the road is not that busy and there's only a bicycle every 5 minutes Now, because bicycles don't go on that road very often the likelihood of the bicycle crashing into you is low. If the bicycle does crash into you, the consequence would be relatively low...so in this scenario, the likelihood and the consequence are both low. Therefore, the overall risk is low.

Scenario 2



In the second scenario there are bicycles traveling more frequently the likelihood of a crash would be higher, but the consequence would still be low.

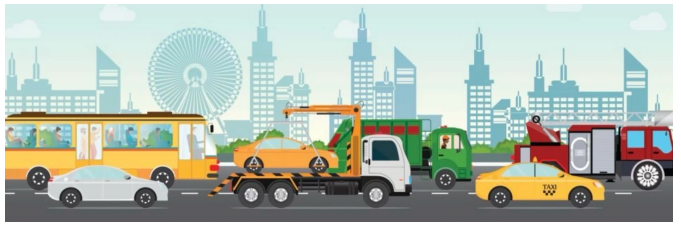
Scenario 3



Let's change the bicycle to a truck

Now, every five minutes a truck crosses the road, the likelihood of the truck to crash into you would still be low. However, the consequence is far more sever.

Scenario 4



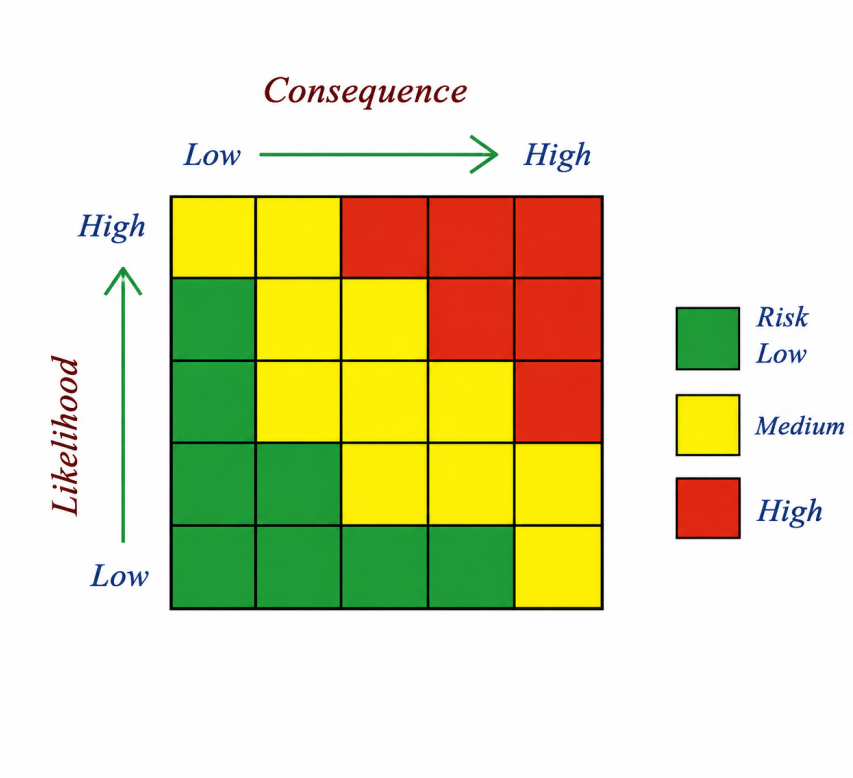
Now, if it was a busy truck route the likelihood of a crash and a consequence both would be heigh Which means that the overall risk would be high.

A simple way of visualizing risk and figuring out the overall level of risk is by using a RISK MATRIX.

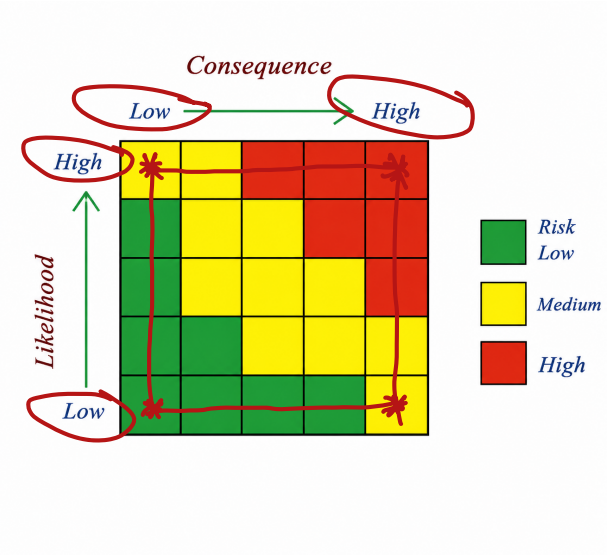
Risk Matrix

Information about likelihood and consequences can be used to determine the overall level of risk.

A risk matrix is basically a table or grid with a measure of likelihood on one side and consequence on the other graded from low to high. The combination of the two, which is the overall level of risk, can be categorized as low, medium, or high and color coded.



Let's get back to the scenarios



Scenario 1 : likelihood is low and consequence is low therefore, the overall risk is low.

Scenario 2 : likelihood is high and consequence is low therefore, the overall risk is medium.

Scenario 3 : likelihood is low and the consequence is high, the overall risk is medium.

Scenario 4: likelihood and consequence are both high therefore, the overall risk is high.

So that's how a risk matrix can be used to determine the overall level of risk using an assessment of likelihood and consequence.

There are many different types of matrices in use, with varying degrees of complexity. They can have many categories and different grades of risk.

They can also have different ways of defining categories of likelihood and consequence. For example, a high likelihood may mean that it's expected to occur in most circumstances and a low likelihood may mean that it may occur only very rarely such as once in 100 years.

With consequence, a high consequence may mean multiple deaths, and a low consequence may mean only minor injuries.

So the risk matrix and the categories that are used can vary, and therefore should be relevant to the situation and the context in which the risk assessment is done.

Regardless of this, risk matrices follow the same principle.

Although risk matrices have their limitations, such as being subjective, not being consistently interpreted, and not taking time frames into consideration, they are a useful and practical tool to categorize risk.

Which of the following is a limitation of risk matrices ?

A. They cannot categorize risk.

B. They are always objective.

C. They consistently interpret risk across all situations.

D. They do not take time frames into consideration.

E. They only measure consequences.

Correct Answer: D.

A particular hazard is expected to occur only very rarely (once in 100 years), but if it occurs, it may cause multiple deaths. Which classification best describes it?

A. High likelihood, low consequence.

B. Low likelihood, high consequence.

C. High likelihood, high consequence.

D. Low likelihood, low consequence.

E. Medium likelihood, medium consequence.

Correct Answer: B.