

Annex B (informative)

Risk matrices

A risk matrix is a tool used in risk management to qualitatively determine the level of risk by assessing the likelihood of an incident occurring and the severity of the consequence should the incident occur.

A risk matrix presents likelihood on one axis and severity on the second axis. The intersections between likelihood and severity establish the risk rank. The intersection between the lowest likelihood and lowest severity yields the lowest risk rank. Whereas the intersection between the highest likelihood and highest severity yields the highest risk rank. The intersections are typically colour-coded to indicate increasing risk rank with green typically being the lowest and red typically being the highest.

While always 2-dimensional, risk matrices vary in size (for example, 3 x 3, 4 x 4, 3 x 5, 5 x 5) depending on the number of categories in the likelihood and severity scales.

Table B.1 is an example of a 3 x 5 risk matrix.

Table B.1 – Example of a 3 x 5 risk matrix

		Severity		
		A	B	C
Likelihood	5	High	High	Med-high
	4	High	Med-high	Medium
	3	Med-high	Medium	Med-low
	2	Medium	Med-low	Low
	1	Med-low	Low	Low

A likelihood scale partitions the entire range of likelihood values into discrete categories or bins. Table B.2 is an example of a likelihood scale with 5 categories. This example demonstrates how some likelihood scales provide multiple ways of partitioning the data into categories. In this example a guideword, a likelihood description and a frequency scale are all provided.

Table B.2 – Example of likelihood scale

Likelihood scale	Guideword	Likelihood description	Frequency-based guidance
1	Certain	Almost certain	$>10^{-1}$ per year (High demand)
2	Likely	Likely to occur	10^{-1} to 10^{-3} per year (Low demand)
3	Possible	Quite possible or not unusual to occur	10^{-3} to 10^{-4} per year
4	Unlikely	Conceivably possible, but very unlikely to occur	10^{-4} to 10^{-5} per year
5	Remote	So unlikely that it can be assumed it will not occur	$<10^{-5}$ per year

Similarly, a consequence or severity scale partitions the entire range of severity values into discrete categories or bins. Table B.3 is an example of a consequence scale with 3 categories. This example demonstrates how some likelihood scales provide multiple ways of partitioning the data into categories. In this example a guideword, a likelihood description and a frequency scale are all provided.