John Nash was a brilliant mathematician who came up with a theory that extended game theory using the Nash equilibrium. Despite Nash suffering from schizophrenia, he went on to win the Nobel Prize for his theory. Using game theory with the Nash equilibrium is not too difficult and I suppose that is one of the beautiful things about the theory. If you've never heard of John Nash then watching the film 'Beautiful Mind' is well worth it to understand more about Nash and his work.

In risk management, we frequently have situations where we have to chose a compensating action for a risk where there are multiple options or where an action changes the risk profile of another risk. These actions may align with the risk management strategies of mitigate, avoid, accept or transfer. The concept of selecting one approach that adversely affects another risk is what I refer to as unintended consequences.

Consider the following example where an organisation has an internal cyber security team and also uses outsourcers/MSP for other technical functions such as Cloud management and networks.

Risk	Likelihood	Consequence	Impact	Impact Score
Flight risk of cyber security teams leaving organisation and organisation losing technical knowledge/IP.	Likely	Moderate	High	
Threat actors compromise third party outsourcer/MSP and compromise organisation and data	Unlikely	Severe	High	

To be able to use the Nash equilibrium, the impact must have a score and the score must be unique for each combination of likelihood and consequence. If you have a typical XXX framework risk management framework then there could be 30 possible impacts. In the example above, the qualitative impact of high is the same as both risks but the scores are different.